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# THE

# BRITISH PARASITIC COPEPODA

BY

THOMAS SCOTT, LL.D., F.L.S.

AND

ANDREW SCOTT, A.L.S.

VOLUME II

COPEPODA PARASITIC ON FISHES

PLATES

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#### THE AUTHORS

DESIRE, WITH THE MOST SINCERE RESPECT,

TO DEDICATE THIS WORK

TO THE

REV. CANON A. M. NORMAN, M.A.,

D.C.L., LL.D., F.R.S., F.L.S., ETC.,
IN GRATITUDE FOR HIS UNFAILING
KINDNESS AND ASSISTANCE
EXTENDED TO THEM FOR MANY YEARS.

#### NOTE BY THOMAS SCOTT.

All the figures, unless otherwise described, have been prepared by my son, Andrew Scott, from specimens examined by the authors.

The illustrations have all been engraved by André & Sleigh, Ltd., of Bushey, Watford.

# LIST OF THE PLATES.

Fig.

Fig.

,,

Plate VIII.
1, 2.—Caligus gurnardi

3-9.—C. zei

,, 10, 11.—C. brevicaudatus

PLATE IX.

1-5.—Caligus pelamydis

pedes
Plate X.

6-9.—Pseudocaligus brevi-

PLATE I.

PLATE II.

1-5.—Ergasilus nanus

6-9.—Bomolochus soleæ

PLATE III.

3.—*B. soleæ* 

 $4.-B.\ onosi$ 

1.—Ergasilus nanus

2.—Bomolochus zeugopteri

Fig.

,,

Fig.

rig.	5-7.—B. onosi	rig.	pedes
"	8, 9.—B. zeugopteri	"	3, 4.—Lepeophtheirus pecto- ralis
	PLATE IV.		PLATE XI.
Fig.	1, 2.— Caligus minimus 3–8.— C. rapax	Fig.	1-6.—Sciænophilus tenuis
	PLATE V.		PLATE XII.
Fig.	1-3.—Caligus centrodonti 4, 5.—C. labracis	Fig.	1.—Lepeophtheirus nord- manni
	PLATE VI.	"	2, 3.—L. pectoralis 4, 5.—Demoleus paradoxus
Fig.	1, 2.—Caligus rapax 3.—C. brevicaudatus		PLATE XIII.
,,	4, 5.—Lepeophtheirus hippo- glossi	Fig.	1-4.—Lepeophtheirus pecto- ralis
	PLATE VII.		PLATE XIV.
Fig.	1.—Caligus zei 2, 3.—C. pelamydis	Fig.	1-10.—Lepeophtheirus pecto- ralis

9.9

#### PLATE XV.

Fig. 1-9.—Lepeophtheirus pectoralis

#### PLATE XVI.

Fig. 1-3.—Lepeophtheirus pecto-

4-11.—L. nordmanni

#### PLATE XVII.

Fig. 1.—Caligus diaphanus ,, 2.—Lepeophtheirus hippoglossi

,, 3.— $L.\ thompsoni$ 

4.—L. salmonis

", 5, 6.—L. pollachii

#### PLATE XVIII.

Fig. 1-3.—Caligus centrodonti

,, 4, 5.—*C. labracis* 

6, 7.—C. diaphanus

,, 8-10.—Lepeophtheirus hippoglossi

., 11, 12.—L. salmonis

,, 13-15.—L. pollachii

, 16-19.—*L. sturionis* 

#### PLATE XIX.

Fig. 1-9.—Lütkenia asterodermi " 10.— Elytrophora brachyptera

., 11-18.— $P\bar{h}yllothreus\ cornutus$ 

#### PLATE XX.

Fig. 1-8.—Nogaus ambiguus

9.—Chondracanthus annulatus

, 10.—C. merluccii

#### PLATE XXI.

Fig. 1.—Lepeophtheirus sturionis

,, 2.—Pandarus bicolor

3, 4.—Cecrops latreillii

,, 5.—Orthagoriscicola muricata

#### PLATE XXII.

Fig. 1, 2.—Trebius caudatus

3.—Dinemoura producta 4.—Echthrogaleus coleop-

tratus
5, 6.—Pandarus bicolor

#### PLATE XXIII.

Fig. 1, 2.—Elytrophora brachyptera

> 3.—Phyllothreus cornutus 4.—Lütkenia asterodermi

.. 5. 6.—Anthosoma crassum

#### PLATE XXIV.

Fig. 1, 2.—Caligus curtus ,, 3, 4.—Philorthragoriscus ser-

# ratus Plate XXV.

Fig. 1-6.—Thersitina gasterostei

7-9.—Caligus curtus

", 10.—Lepeophtheirus thomp-

" 11-16.—Caligus minimus

#### PLATE XXVI.

Fig. 1-3.—Dinemoura producta ... 4-19.—Pandarus bicolor

#### PLATE XXVII.

Fig. 1-8.—Dinemoura producta

9, 10.—Cecrops latreillii

,, 11-24.—Philorthragoriscus serratus

#### PLATE XXVIII.

Fig. 1-7.—Cecrops latreillii ,, 8-18.—Orthagoriscicola muri-

cata

#### PLATE XXIX.

Fig. 1.—Echthrogaleus lütkeni ,, 2-5.—Lernanthropus kröyeri

#### PLATE XXX.

Fig. 1-8.—Echthrogaleus lütkeni 9-17.—Lernanthropus kröyeri

#### PLATE XXXI.

1-6.—Elytrophora brachy-Fig. ptera 7-18.—Dichelestium oblongum

#### PLATE XXXII.

Fig. 1-11.—Hatschekia mulli

#### PLATE XXXIII.

Fig. 1.—Hatschekia cluthæ 2.—H. labracis 3, 4.—H. hippoglossi 5.—Thysanote impudica 6.—? Lernæopoda lampri

#### PLATE XXXIV.

Fig. 1-5.—Hatschekia cluthæ 6, 7.—H. labracis 8-11.—H. hippoglossi

# PLATE XXXV.

Fig. 1, 2.—Hatschekia cornigera 3-7.—*H. pygmæa* 

#### PLATE XXXVI.

Fig. 1-5.—Hatschekia cornigera 6-9.—Н. рудтжа ,,

#### PLATE XXXVII.

Fig. 1.—Eudactylina acuta 2, 3.—E. acanthii ,, 4, 5. -E. similis ,,

6, 7.—E. minuta

#### PLATE XXXVIII.

1-5.—Eudactylina acuta 6-12.—E. acanthii

#### PLATE XXXIX.

Fig. 1-17.—Eudactylina similis

#### PLATE XL.

Fig. 1-9.—Eudactulina minuta

#### PLATE XLI.

Fig. 1.—Congericola pallida 2-4.—Chrondracanthus de-,, pressus 5.—C. zei

6.—C. ornatus 99

### PLATE XLII.

1-8.—Lernæa branchialis Fig.

#### PLATE XLIII.

1-7.—Lernæa branchialis Fig.

#### PLATE XLIV.

1, 2.—Lernæa lusci Fig. 3.-L. minuta 4.—L. lumpi 5-7.—Hæmobaphes cyclopterina 8.—Hæmobaphoides ambiguus

#### PLATE XLV.

1.—Rebelula edwardsi Fig. 2, 3.—Philichthys xiphiæ 22 4, 5.— Dichelestium oblongum 22 6.—Tripaphylus musteli ,, 7.—Chondracanthus orna-8.—Brachiella rostrata

#### PLATE XLVI.

Fig. 1-5.—Lernæenicus sprattæ 6-9.—L. encrasicola ,,

#### PLATE XLVII.

1, 2.—Chondracanthus cor-Fig. nutus3.—C. annulatus

#### PLATE XLVII-continued.

Fig. 4.—Chondracanthus soleæ

j. 5.—C. fluræ

l. 6.—C. limandæ

., 7.—C. clavatus

" 8.—C. merluccii

#### PLATE XLVIII.

Fig. 1-3.—Lepeophtheirus thompsoni

, 4, 5.—L. pollachii

,, 6.—L. brevicaudatus ,, 7.—Caligus diaphanus

" 8–12.—Lernæopoda salmonea

,, 13-16 — Chondracanthus nodo-

, 17.—Ergasilus nanus

" 18.—Brachiella insidiosa

#### PLATE XLIX.

Fig. 1-7.—Tripaphylus musteli ,, 8-11.—Thysanote impudica

" 12-16.—(?) Lernæopoda lampri

#### PLATE L.

Fig. 1-5.—Lerneocera cyprinacea

6-8.—Achtheres percarum 9.—Brachiella bispinosa

#### PLATE LI.

Fig. 1.—Tripaphylus musteli

., 2.—Pennella orthagorisci

,, 3, 4.—Sphyrion lumpi ,, 5.—Rebelula edwardsi

., 6.—Thersitina gasterostei

,, 7.—Clavella lophii

#### PLATE LII.

Fig. 1-3.—Chondracanthus nodosus

4.—C. lophii

,, 5.—C. cornutus ,, 6.—Medesicaste asellinum

#### PLATE LIII.

Fig. 1-9.—Chondracanthus cornutus

,, 10, 11.—C. flure

" 12–15.—C. soleæ " 16–19.—C. merluccii

#### PLATE LIV.

Fig. 1-11.—Trebius caudatus

,, 12-17.—Charopinus dalmanni

, 18-22.—C. ramosus

#### PLATE LV.

Fig. 1-4.—Charopinus dalmanni

5.—C. dubius

" 6, 7.—C. ramosus

#### PLATE LVI.

Fig. 1-7.—Chondracanthus depressus

8-10.—C. annulatus

11, 12.—C. limandæ

, 13.—C. zei

,, 14, 15.—*C. clavatus* ,, 16–18.—*C. lophii* 

#### PLATE LVII.

Fig. 1-7.—Lernæopoda cluthæ

8-12.—L. bidiscalis

,, 13-17.—L. elongata

" 18, 19.—Medesicaste asellinum

#### PLATE LVIII.

Fig. 1-8.—Pandarus bicolor

, 9-15.—Lernæopoda galei

" 16.—*L. cluthæ* 

# PLATE LIX.

Fig. 1-6.—Lernæopoda salmonea ,, 7, 8.—Achtheres percarum

#### PLATE LX.

Fig. 1-3.—Lernæopoda cluthæ

" 4-6.—L. galei

,, 7.—Brachiella ovalis

#### PLATE LXI.

- Fig. 1, 2.—Lernæopoda bidiscalis
  - ,, 3, 4.—L. elongata
  - ,, 5, 6.—L. similis

#### PLATE LXII.

- Fig. 1.—Brachiella trigla
  - " 2.—B. insidiosa
    - 3.—B. rostrata
  - , 4, 5.—B. merluccii

#### PLATE LXIII.

- Fig. 1.—Lernæopoda galei
- " 2-8.—Brachiella rostrata
- ,, 9-16.—B. insidiosa
- " 17-20.—B. merluccii
- " 21–25.—B. triglæ
- " 26-30.—B. ovalis

#### PLATE LXIV.

- Fig. 1-3.—Achtheres percarum
- " 4-6.—Brachiella thynni
  - ,, 7.—B. parkeri
  - " 8.—B. pastinaca
  - ,. 9.— $B.\ \hat{b}ispinosa$

#### PLATE LXV.

- Fig. 1.—Clavella brevicollis
  - ,, 2, 3.—C. uncinata
    - ,, 4, 5.—C. rugosa
  - ,, 6.—C. (?) uncinata
  - ,, 7.—C. dubia
    - 8, 9.—C. stellata

#### PLATE LXVI.

- Fig. 1-7.—Clavella rugosa
  - , 8–11.—*C. dubia*
- " 12-16.—C. brevicollis
- " 17-20.—C. emarginata
  - 21-23.—C. uncinata

#### PLATE LXVII.

- Fig. 1-3.—Clavella scombri
  - " 4-6.—C. paradoxa

# PLATE LXVIII.

- Fig. 1-7.—Clavella scombri
- " 8–14.—C. paradoxa
  - " 15.—C. quadrata

#### PLATE LXIX.

- Fig. 1-3.—Clavella canthari
  - " 4-6.—C. alata
- ,, 7.—C. emarginata

#### PLATE LXX.

Fig. 1-13.—Kroyeria lineata

# PLATE LXXI.

- Fig. 1-12.—Eudactylina insolens
  - " 13.—Brachiella pastinaca
- " 14.—Caligus pelāmydis

## PLATE LXXII.

Fig. 1-10.—Argulus foliaceus

# REFERENCE LETTERS TO PLATES IV, XII-XV, XLII, AND XLIII.

a. antennules.

 $a^{i}$ . antennæ.

an. anus.

b. median frontal sucker.

c. filament duct.

cg. cement gland.

dg. digestive gland.

e. eyes.

f. filament.

g. ganglia.i. intestine.

ls. lateral frontal sucker.

lns. lens.

m. mouth.

md. mandible.

mx. first maxilla.

mx<sup>1</sup>. second maxilla. mxp. first maxilliped.

 $mxp^{\tau}$ . second maxilliped.

n. nerves.

o. ovary.

od. oviduct.

oe. œsophagus.

os. ovisac.

 $p^{\mathrm{r}}$ . first pair of feet.

 $p^{ii}$ . second pair of feet.

 $p^{\text{III}}$ . third pair of feet.

 $p^{\text{iv}}$ . fourth pair of feet.

 $p^{v}$ . fifth pair of feet.

pvi. sixth pair of feet.

rs. receptaculum seminis.

rt. rectum.

rtn. retina.

s. stomach.

sbg. sub-esophageal ganglion.

spg. supra-esophageal ganglion.

sp. spermatophore.

t. testis.

u. vulva.

vd. vas deferens.

# Nos. 1-13, Nerves, as follows:-

1. optic.

2. antennules.

3. antennæ.

4. mandibles.

5. lateral frontal margins.

6. first maxillæ.

7. second maxillæ.8. lateral cephalic muscles.

9. first maxillipeds.

10. second maxillipeds.11. first feet and stomach muscles.

12. second feet and posterior cephalic muscles.

13. third feet, fourth feet, fifth feet, genital segment, and abdomen.

# PLATE I.

Figs.

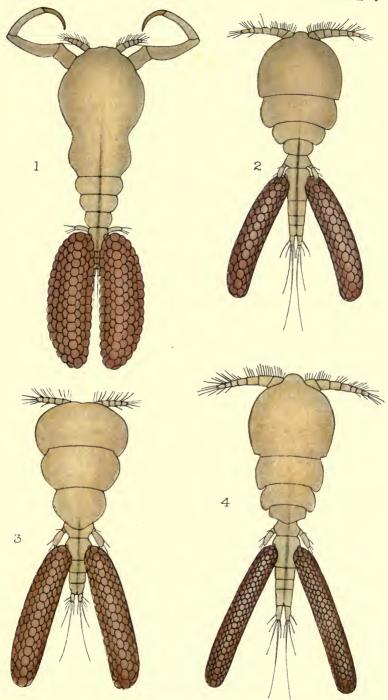
1. Ergasilus nanus P. J. van Beneden, ♀, dorsal view, × 51. (p. 34.)

2. Bomolochus zeugopteri T. Scott, ?, dorsal view, × 44. (p. 40.)

3. Bomolochus soleæ Claus, ♀, dorsal view, × 24. (p. 36.)

[4. Bomolochus onosi T. Scott, 2, dorsal view, × 48. (p. 39.)

[Note.—At page 30, vol. I (text), after Ergasilus nanus read P. J. van Beneden instead of Claus.]



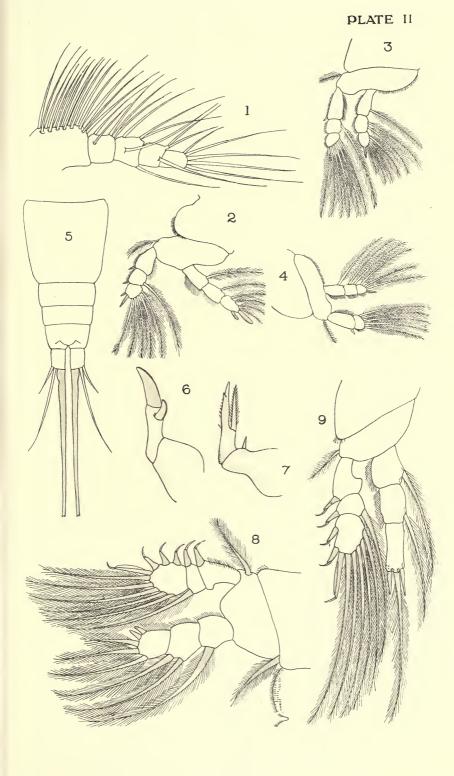


## PLATE II.

Figs.

- 1-5. Ergasilus nanus P. J. van Beneden, Q. (p. 34.)
  - 1. Antennule.
  - 2. Foot of first pair.
  - 3. Foot of third pair.
  - 4. Foot of fourth pair.
  - 5. Abdomen.
- 6-9. Bomolochus soleæ Claus, ?. (p. 36.)
  - 6. Mandible.
  - 7. First maxilliped.
  - 8. Foot of second pair.
  - 9. Foot of fourth pair.

(Figures much enlarged.)



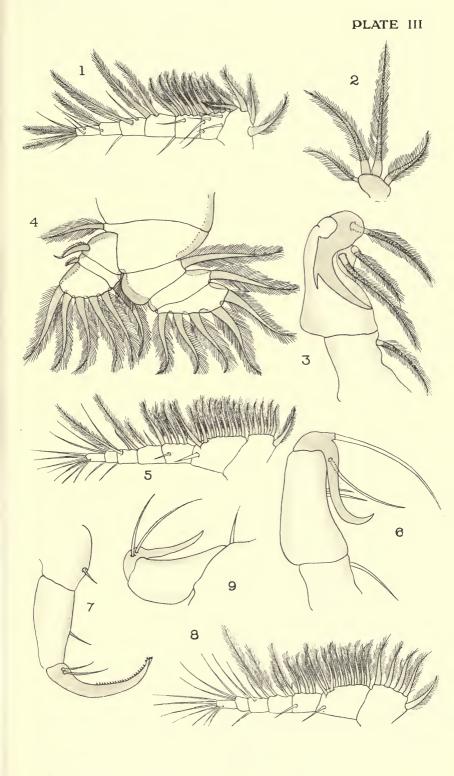


#### PLATE III.

Figs.

- 1-4. Bomolochus soleæ Claus, ♀. (p. 36.)
  - 1. Antennule.
  - 2. Maxilla.
  - 3. Second maxilliped.
  - 4. Foot of first pair.
- 5-7. Bomolochus onosi T. Scott. (p. 39.)
  - 5. Antennule, ?.
  - 6. Second maxilliped, ?.
  - 7. Second maxilliped, &.
- 8, 9. Bomolochus zeugopteri T. Scott, 9. (p. 40.)
  - 8. Antennule.
  - 9. Second maxilliped.

(Figures much enlarged.)





# PLATE IV.

Figs.

1, 2. Caligus minimus Otto. (p. 46.)

1. Dorsal view, ♀, × 11.

2. Dorsal view, 3, × 11. 3-8. Caligus rapax M. Edwards. (p. 48.)

3. Early "chalimus" stage attached to fin-ray of a young cod,  $\times$  54.

4. Late "chalimus" stage attached to tail of a young lumpsucker,  $\times$  15.

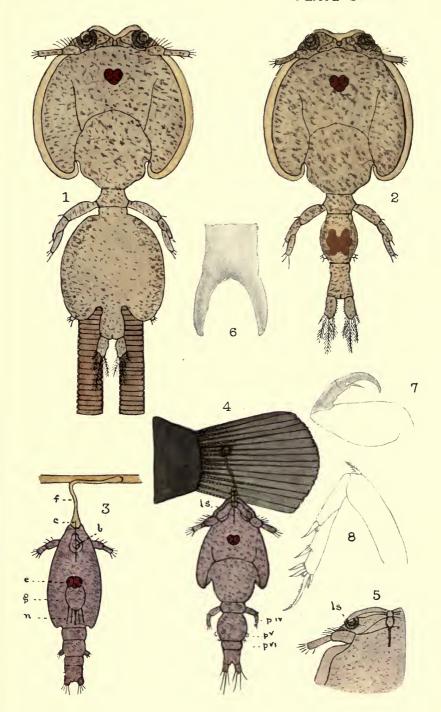
5. Mature part of a frontal plate, shewing lateral sucker (lunula).

6. Sternal fork, ?.

7. Second maxilliped, ?.

8. Foot of fourth pair, ?.

(Figures 5-8 much enlarged.)





# PLATE V.

Fies.

1-3. Caligus centrodonti Baird. (p. 50.)

1. Dorsal view, \(\frac{1}{2}\). (After C. B. Wilson.)

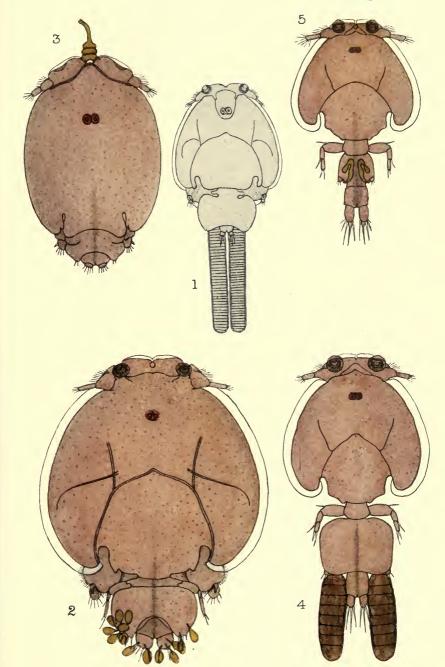
2. Dorsal view, \(\frac{1}{2}\), \times 16.

3. Dorsal view of a young individual, \(\frac{1}{2}\), \times 16.

4, 5. Caligus labracis T. Scott. (p. 53.)

4. Dorsal view, ♀, × 21.

5. Dorsal view, 3, × 21.





# PLATE VI.

Figs.

1, 2. Caligus rapax M. Edwards. (p. 48.)

Dorsal view, \$\chi\$, \$\times\$ 13.
 Dorsal view, \$\chi\$, \$\times\$ 13.

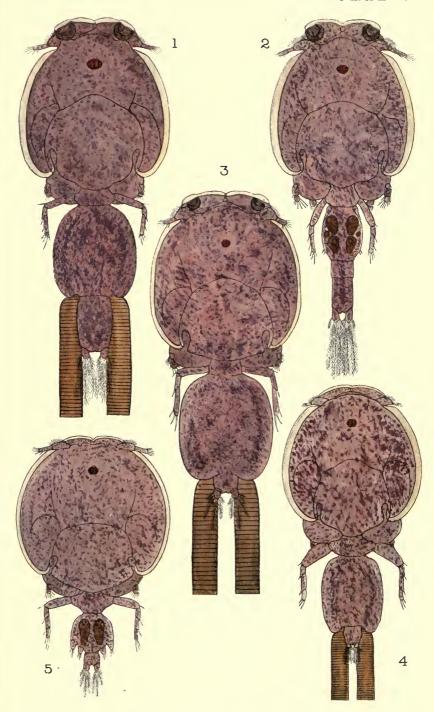
3. Caligus brevicaudatus A. Scott. (p. 56.)

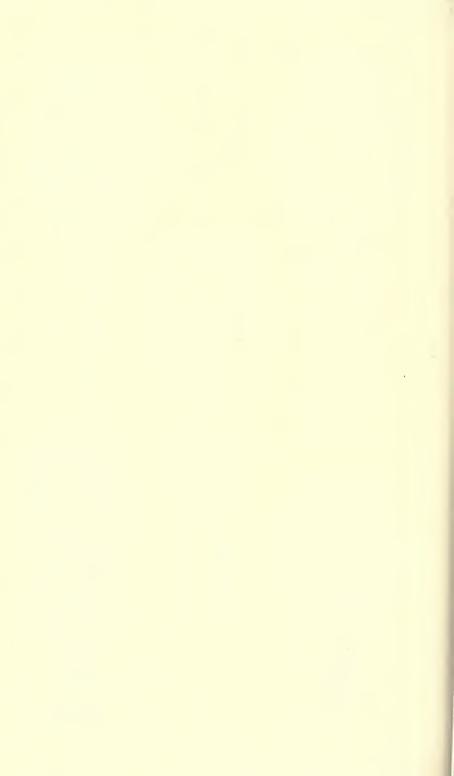
3. Dorsal view, ?,  $\times$  16.

4, 5. Lepeophtheirus hippoglossi (Kröyer). (p. 67.)

4. Dorsal view,  $\mathfrak{P}$ ,  $\times$  5.

5. Dorsal view,  $\delta$ ,  $\times$  7.5.





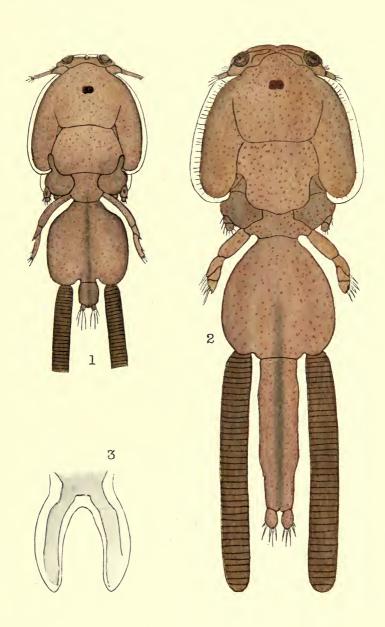
# PLATE VII.

Figs.

(p. 54.) 1. Caligus zei Norman & T. Scott.

1. Dorsal view, ♀, × 11.
2, 3. Caligus pelamydis Kröyer. (p. 57.)
2. Dorsal view, ♀, × 22·5
3. Sternal fork, ♀ (enlarged).

# PLATE VII





#### PLATE VIII.

Figs.

1, 2. Caligus gurnardi Kröyer. (p. 52.)

Dorsal view, ♂, × 8. (After Kröyer.)
 Dorsal view, ♀, × 8. (After Kröyer.)

3-9. Caligus zei Norman & T. Scott, ♀. (p. 54.)

3. Antennule.

- 4. Antenna.
- 5. Sternal fork.
- 6. First maxilliped.
- 7. Second maxilliped.
- 8. Foot of fourth pair.

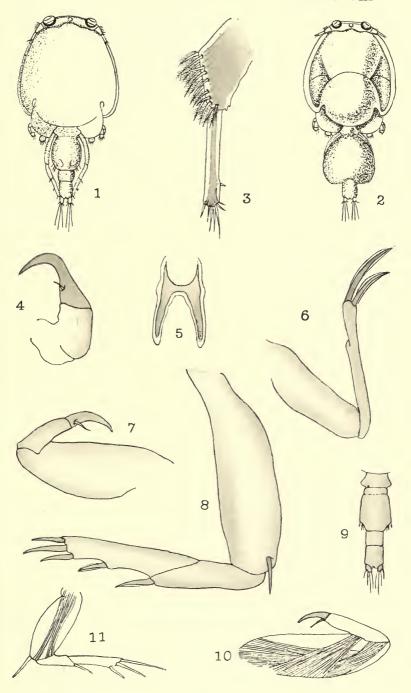
9. Urosome, 3.

10, 11. Caligus brevicaudatus A. Scott, ? . (p. 56.)

10. Second maxilliped, ♀.

11. Foot of fourth pair, \(\varphi\).

(Figures 3-11 much enlarged.)



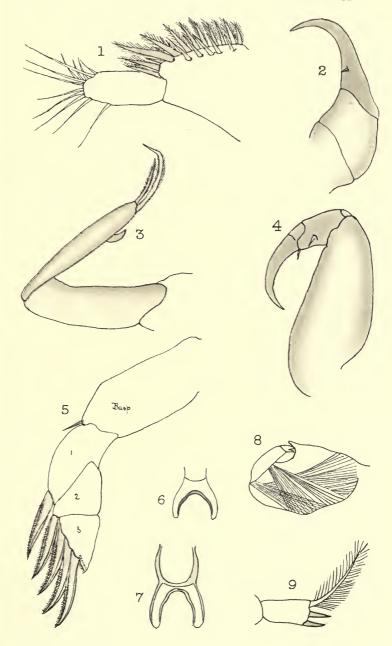


#### PLATE IX.

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- 1-5. Caligus pelamydis Kröyer, ♀. (p. 57.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. First maxilliped.
  - 4. Second maxilliped.
  - 5. Foot of fourth pair.
- 6-9. Pseudocaligus brevipedes (Bassett-Smith). (p. 61.)
  - 6. Sternal fork, 2.
  - 7. Sternal fork, 3.
  - 8. Second maxilliped, ?.
  - 9. Foot of fourth pair, ?.

(Figures much enlarged.)





# PLATE X.

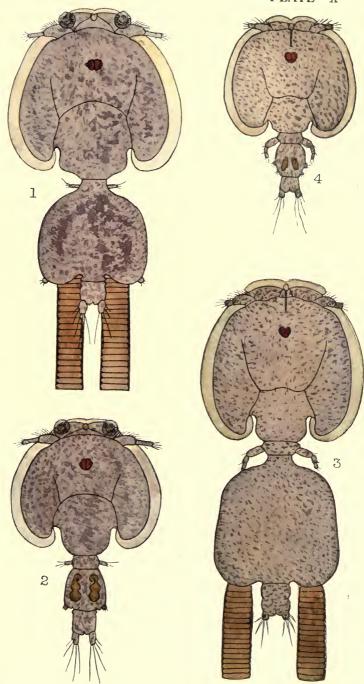
Figs.

1, 2. Pseudocaligus brevipedes (Bassett-Smith). (p. 61.)

Dorsal view, ♀, × 22.
 Dorsal view, ♂, × 22.

3, 4. Lepeophtheirus pectoralis (O. F. Müller). (p. 64.)

Dorsal view, ♀, × 17.
 Dorsal view, ♂, × 17.





#### PLATE XI.

Figs.

1-6. Sciænophilus tenuis P. J. van Beneden, ♀. (p. 63.)

1. Dorsal view (natural size).

2. Dorsal view (enlarged).

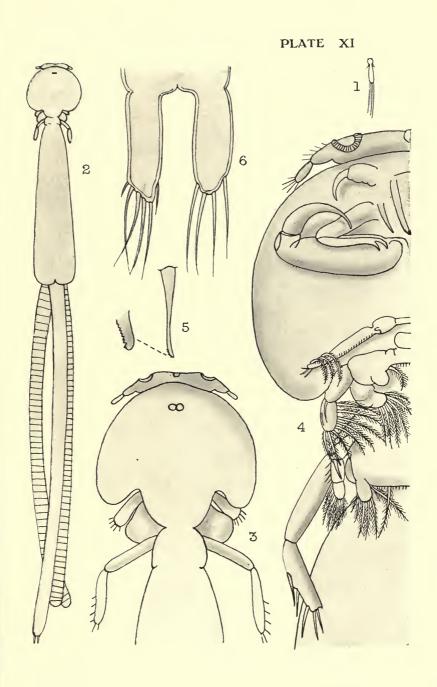
3. Dorsal view (cephalothorax only).

4. Ventral view (cephalothorax, right half only).

5. Mandible.

6. Caudal rami.

(After P. J. van Beneden.)





### PLATE XII.

Figs.

1. Lepeophtheirus nordmanni (M. Edwards). (p. 66.)

1. Dorsal view, 9,  $\times$  9.

2, 3. Lepeophtheirus pectoralis (O. F. Müller). (p. 64.)

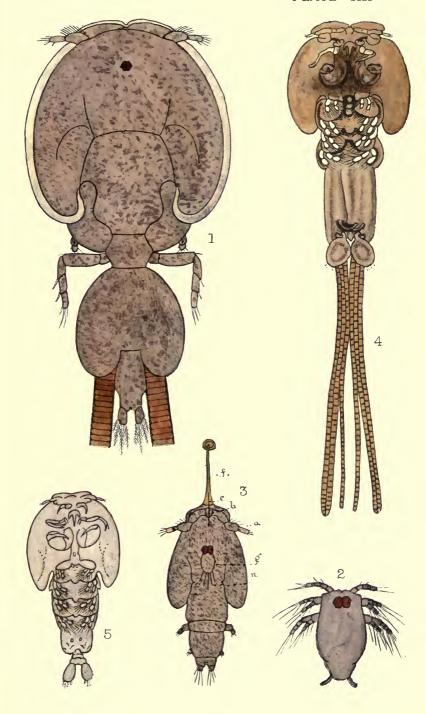
2. Newly hatched nauplius,  $\times$  52.

3. "Chalimus" stage, x 26. 4, 5. Demoleus paradoxus (Otto). (p. 79.)

4. Ventral view, \(\varphi\). (After Otto.)
5. Ventral view, \(\delta\). (After Otto.)

(Figures 4 and 5 enlarged.)

# PLATE XII





# PLATE XIII.

Figs.

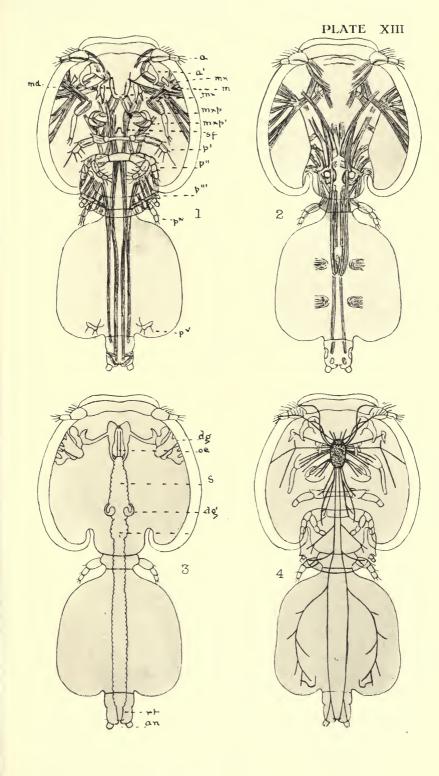
1-4. Lepeophtheirus pectoralis (O. F. Müller), ♀. (pp. 9-18 and 64.)

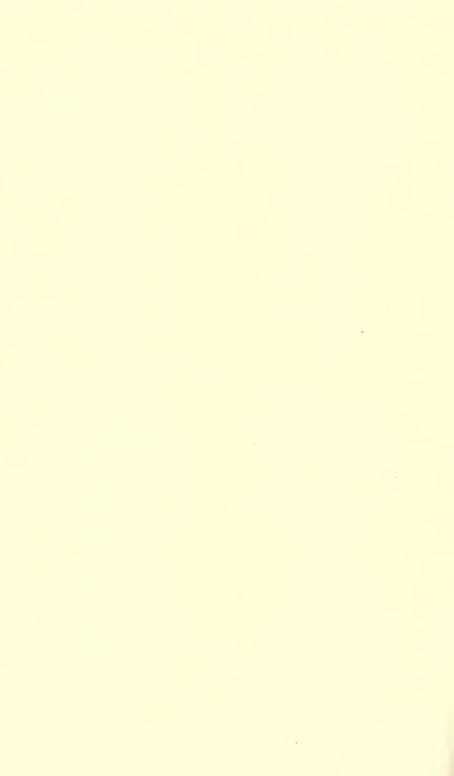
1. Ventral view, shewing the various appendages and their muscles, × 17.

2. Dorsal view, shewing the dorsal muscles,  $\times$  17.

3. Ventral view, shewing the alimentary caual and digestive glands, × 17.

4. Ventral view, shewing the nervous system in situ, × 17.





#### PLATE XIV.

Figs.

1-10. Lepeophtheirus pectoralis (O. F. Müller). (pp. 9-18 and 64.)

1. Ventral view, shewing the reproductive organs,  $\varphi$ ,  $\times$  17.

2. Genital segment and abdomen, ?, immature.

3. Ventral view, shewing the reproductive organs,  $\delta$ ,  $\times$  17.

4. Longitudinal section of the ovary.

- Transverse section through genital segment, <sup>♀</sup>, mature.
- 6. Transverse section through genital segment, 3, mature.

7. Left anterior digestive gland.

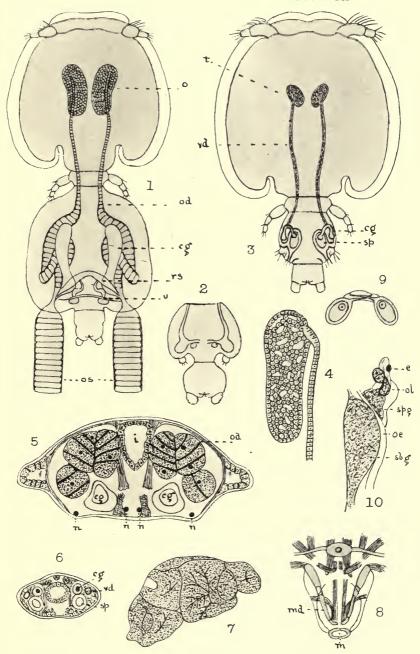
8. Mouth from the anterior surface, shewing the mandibles in situ, and the ducts from the right and left anterior digestive glands.

9. Spermatophores detached from the genital

openings of a female.

10. Median longitudinal section of the ganglia, shewing the "pinhole" cesophagus passing through between the supra- and sub-cesophageal parts.

(Figures much enlarged.)





# PLATE XV.

Figs.

1-9. Lepeophtheirus pectoralis (O. F. Müller), \(\varphi\). (pp. 9-18 and 46.)

1. Nearly median longitudinal section.

2. Part of transverse section of the intestine.

3. Horizontal section of the supra-œsophageal ganglion, shewing the crossing of the fibres of the optic nerves.

4. Transverse section of the eyes.

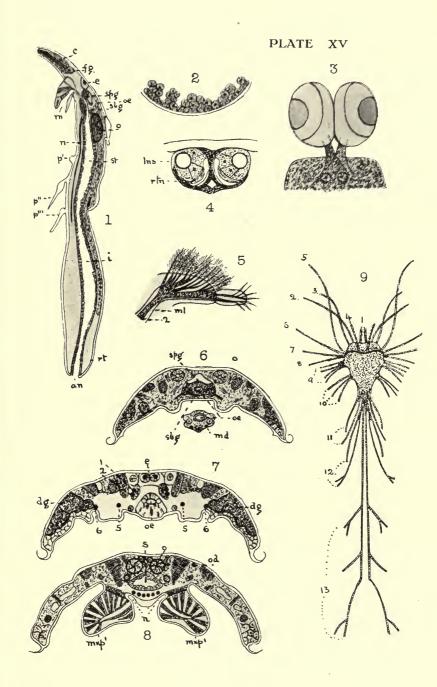
- 5. One of the antennules, shewing the nerve endings.
- 6. Transverse section in the region of the supra- and sub-æsophageal ganglia.

7. Transverse section in the region of the eyes.

8. Transverse section in the region of the second maxillipeds.

9. The nervous system from the ventral aspect.

(Figures much enlarged.)





## PLATE XVI.

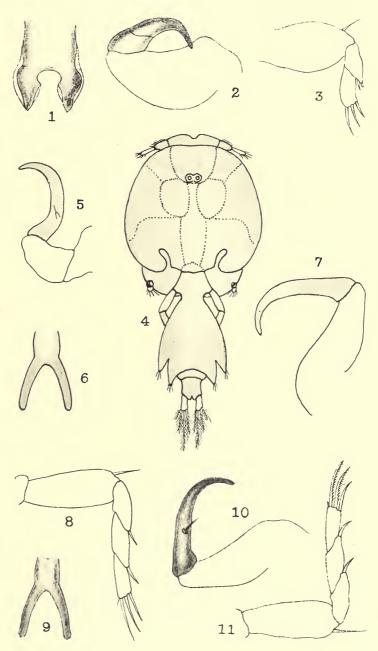
Figs.

1-3. Lepeophtheirus pectoralis (O. F. Müller), ♀. (p. 64.)

1. Sternal fork.

- Second maxilliped.
   Foot of fourth pair.
- 4-11. Lepeophtheirus nordmanni (M. Edwards), ♀ & ♂. (p. 66.)
  - 4. & Dorsal view. (This figure after C. B. Wilson.)
  - 5. ? Antenna.
  - 6. 9 Sternal fork.
  - 7. 9 Second maxilliped.
  - 8. 9 Foot of fourth pair.
  - 9. 9 Sternal fork.
  - 10. 9 Second maxilliped.
  - 11. ? Foot of fourth pair.

(The last three figures are from a second specimen.)





## PLATE XVII.

Figs.

1. Caligus diaphanus Nordmann. (p. 60.)

1. Dorsal view, ♀, × 13.

2. Lepeophtheirus hippoglossi (Kröyer).2. Dorsal view, ♀ immature.

3. Lepeophtheirus thompsoni Baird. (p. 69.)

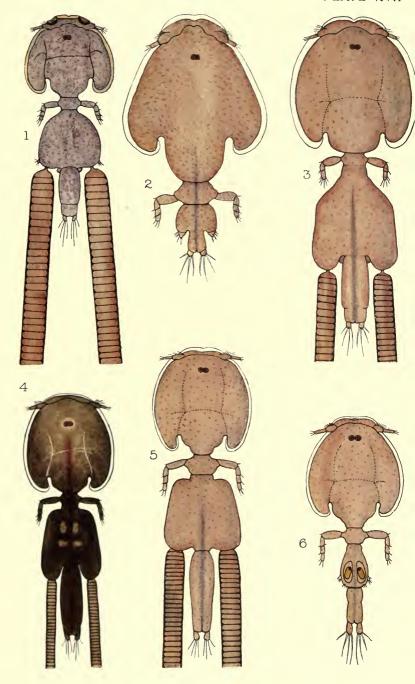
3. Dorsal view, \$\forall , \times 8.75.
4. Lepeophtheirus salmonis (Kröyer). (p. 71.)

4. Dorsal view, ?, × 4.

5, 6. Lepeophtheirus pollachii Bassett-Smith. (p. 73.)

5. Dorsal view,  $\mathfrak{P}$ ,  $\times$  10.

6. Dorsal view, 3, × 13.





### PLATE XVIII.

Figs. 1-3. Caligus centrodonti Baird, ?. (p. 50.) 1. Sternal fork. 2. Second maxilliped. 3. Foot of fourth pair. 4, 5. Caligus labracis T. Scott, \(\gamma\). (p. 53.) 4. Sternal fork. 5. Foot of fourth pair. 6, 7. Caligus diaphanus Nordmann, ♀. (p. 60.) 6. Second maxilliped. 7. Foot of fourth pair. 8-10. Lepeophtheirus hippoglossi (Kröyer), ? (p. 67.) 8. Sternal fork. 9. First maxilliped. 10. Second maxilliped. 11, 12. Lepeophtheirus salmonis (Kröyer), ? (p. 71.) 11. Sternal fork. 12. Foot of fourth pair. 13-15. Lepeophtheirus pollachii Bassett-Smith, ?. (p. 73.) 13. First maxilliped. 14. Second maxilliped. 15. Foot of fourth pair. 16-19. Lepeophtheirus sturionis (Kröyer), ♀. (p. 74.) 16. Sternal fork. 17. Second maxilliped. 18. Foot of fourth pair. 19. Furcal joints.

(Figures much enlarged.)



## PLATE XIX.

Figs. 1–9. Lütkenia asterodermi Claus,  $\circ$ . (p. 76.)

1. Antennule.

2. Antenna.

3. First maxilliped.4. Second maxilliped.

5. Foot of first pair.

6. Foot of second pair.7. Foot of third pair.

8. Foot of fourth pair.

9. Abdomen and furcal joints.

10. Elytrophora brachyptera Gerstaecker. (p. 83.)

10. Foot of second pair, ♀.

11-18. Phyllothreus cornutus (M. Edwards), ?. (p. 92.)

11. Antennule.

12. Antenna.

13. First maxilliped.

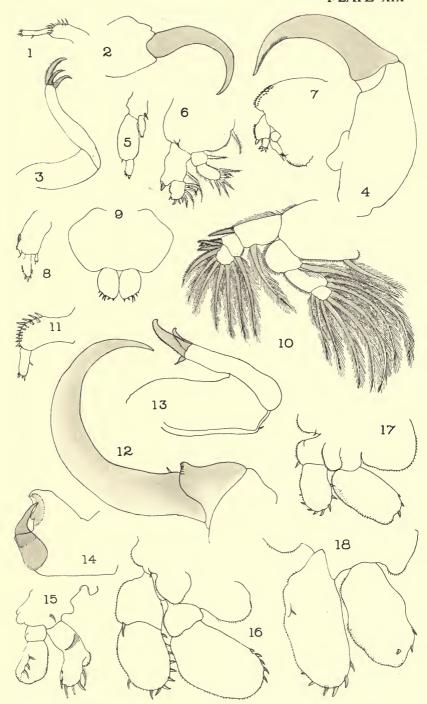
14. Second maxilliped.15. Foot of first pair.

16. Foot of second pair.

17. Foot of third pair.

18. Foot of fourth pair.

(Figures much enlarged.)





## PLATE XX.

Figs.

1-8. Nogaus ambiguus T. Scott, 3. (p. 78.)

1. Dorsal view,  $\times$  13.

2. Antennule.

3. First maxilliped.

4. Second maxilliped.

5. Foot of first pair.

6. Foot of second pair.

7. Foot of third pair.8. Foot of fourth pair.

9. Chondracanthus annulatus Olsson. (p. 169.)

9. Lateral view,  $\delta$ ,  $\times$  50.

10. Chondracanthus merluccii (Holten). (p. 180.)

10. Lateral view, ♂, × 115.

(Figures 2-8 much enlarged.)



## PLATE XXI.

Figs.

1. Lepeophtheirus sturionis (Kröyer). (p. 74.)

1. Dorsal view,  $\circ$ ,  $\times$  6.6.

2. Pandarus bicolor Leach. (p. 95.)

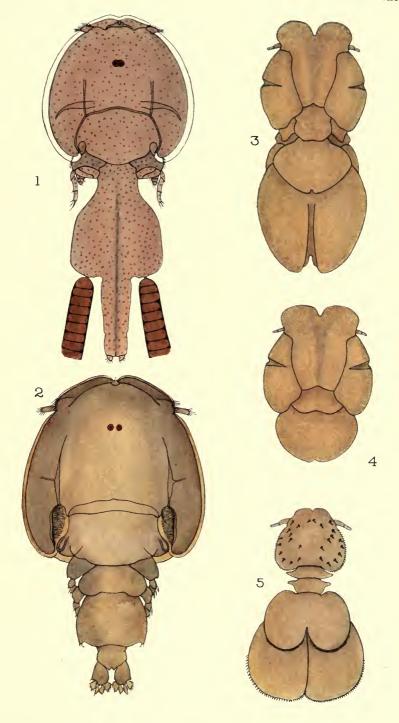
2. Dorsal view, ♂ (juv.) = Nogagus latus T. Scott, × 15.

3, 4. Cecrops latreillii Leach. (p. 98.)

3. Dorsal view, ?,  $\times$  2.

4. Dorsal view,  $\delta$ ,  $\times$  2. 5. Orthagoriscicola muricata (Kröyer). (p. 100.)

5. Dorsal view, ♀, × 2.5.





# PLATE XXII.

Figs.

1, 2. Trebius caudatus Kröyer. (p. 81.)

Dorsal view, ♀, × 6.6.
 Dorsal view, ♂, × 15.

3. Dinemoura producta (O. F. Müller). (p. 86.)

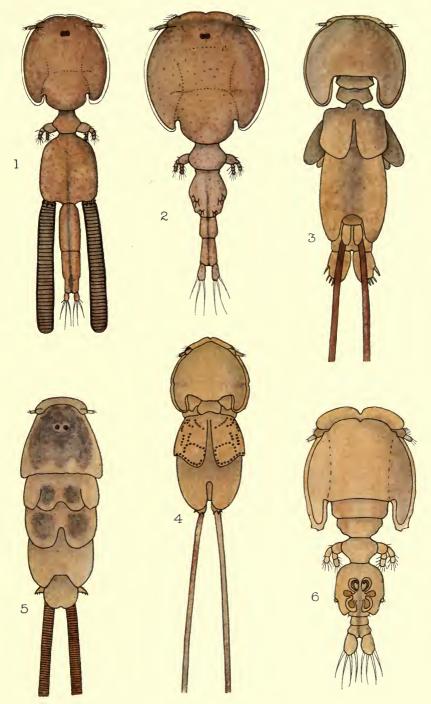
3. Dorsal view,  $\circ$ ,  $\times$  3.3.

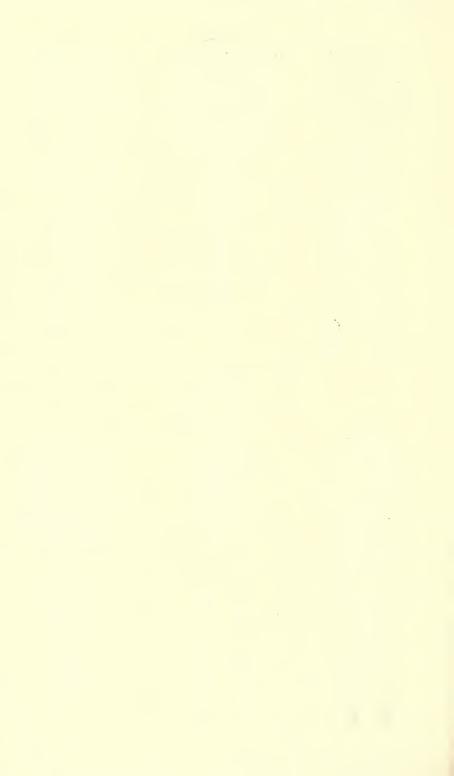
4. Echthrogaleus coleoptratus (Guérin). (p. 89.)

4. Dorsal view,  $\hat{\gamma}$ ,  $\times$  4.

5, 6. Pandarus bicolor Leach. (p. 95.)

6. Dorsal view,  $\delta$ ,  $\times$  10.





#### PLATE XXIII.

Figs.

1, 2. Elytrophora brachyptera Gerstaecker. (p. 83.)

Dorsal view, ?, x 8.
 Dorsal view, 3, x 8.

3. Phyllothreus cornutus (M. Edwards). (p. 92.) 3. Dorsal view, ?,  $\times$  4.5.

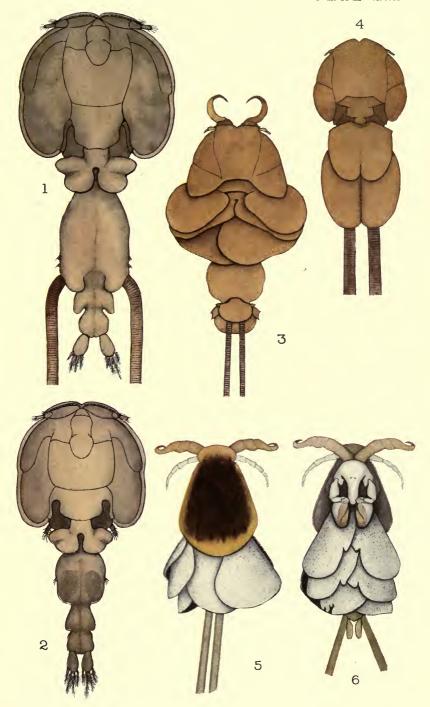
4. Lütkenia asterodermi Claus. (p. 76.)

4. Dorsal view, ? (enlarged).

5, 6. Anthosoma crassum (Abildgaard). (p. 108.)

5. Dorsal view, 2, × 3.

6. Ventral view, ?,  $\times$  3.





## PLATE XXIV.

Figs.

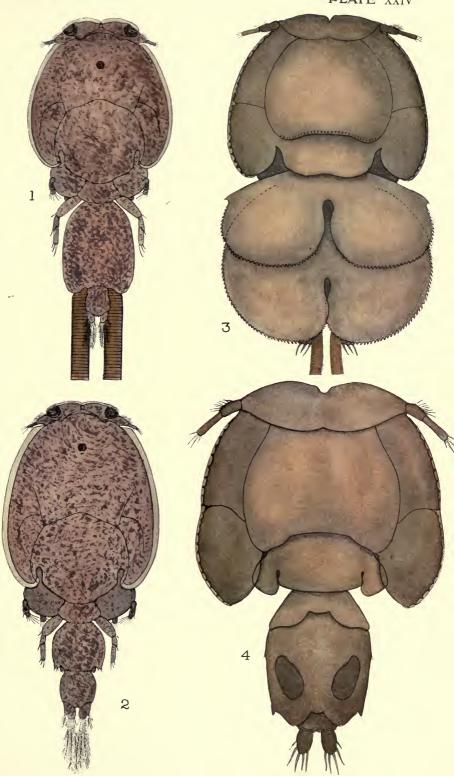
1, 2. Caligus curtus O. F. Müller. (p. 45.)

1. Dorsal view, 9,  $\times$  8.

2. Dorsal view, ♂, × 6.5.

3, 4. Philorthragoriscus serratus (Kröyer). (p. 104.)

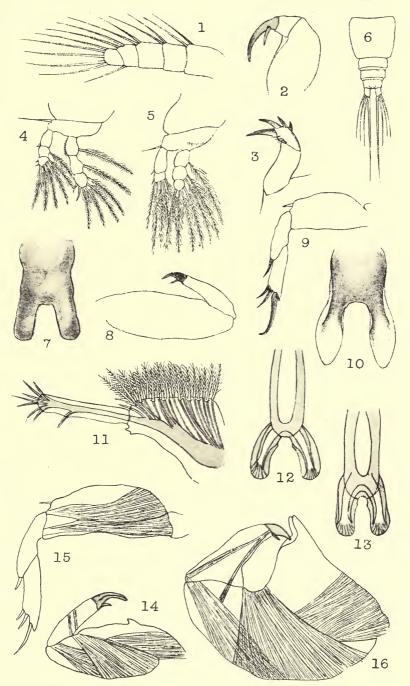
3. Dorsal view, ♀, × 12·5.
 4. Dorsal view, ♂, × 20.





# PLATE XXV.

Thereiting ageterostei (Pagenstacher)	(n 42.)
	(P. 12-1)
Caligus curtus O. F. Müller, ♀. (p. 45.)	
7. Sternal fork.	
8. Second maxilliped.	
9. Foot of fourth pair.	
12. Sternal fork, 9.	
10. Second maximped, 6.	
(Figures much enlarged.)	
	8. Second maxilliped. 9. Foot of fourth pair.  Lepeophtheirus thompsoni Baird. (p. 69.) 10. Sternal fork, \(\gamma\).  Caligus minimus Otto, \(\gamma\) & \(\delta\) (p. 46.) 11. Antennule, \(\gamma\). 12. Sternal fork, \(\gamma\). 13. Sternal fork, \(\delta\). 14. Second maxilliped, \(\gamma\). 15. Foot of fourth pair, \(\gamma\). 16. Second maxilliped, \(\delta\).





#### PLATE XXVI.

Figs.

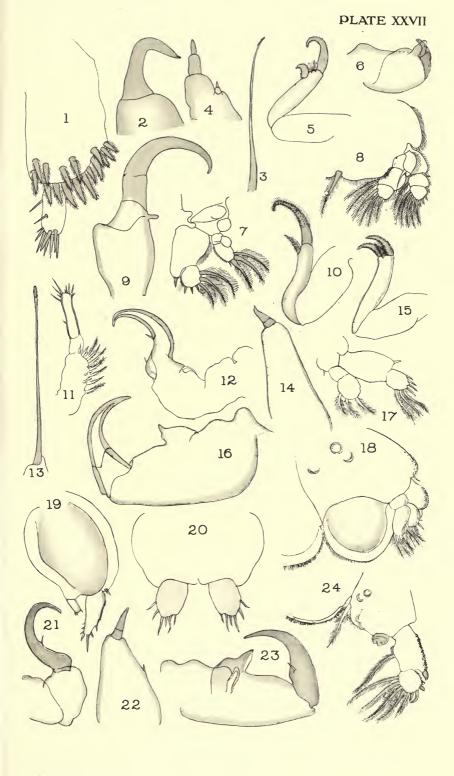
- 1-3. Dinemoura producta (O. F. Müller), 9. (p. 86.)
  - 1. Foot of second pair.
  - 2. Foot of fourth pair.
  - 3. Fifth foot.
- 4-19. Pandarus bicolor Leach, ♀ & ♂. (p. 95.)
  - 4. ♀ Antennule.
  - 5. Antenna.
  - 6. Maxilla.
  - 7. First maxilliped.
  - 8. Second maxilliped.
  - 9. Foot of first pair.
  - 10. Foot of second pair.
  - 11. Foot of third pair.
  - 12. Foot of fourth pair.
  - 13. 3 Antennule.
  - 14. Antenna.
  - 15. Maxilla.
  - 16. First maxilliped.
  - 17. Second maxilliped.
  - 18. Foot of first pair.
  - 19. Foot of second pair.



#### PLATE XXVII.

Figs.

- 1-8. Dinemoura producta (O. F. Müller), 9. (p. 86.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. Mandible.
  - 4. Maxilla.
  - 5. First maxilliped.
  - 6. Second maxilliped.
  - 7. Foot of first pair.
  - 8. Foot of third pair.
- 9, 10. Cecrops latreillii Leach, Q. (p. 98.)
  - 9. Antenna.
  - 10. First maxilliped.
- 11-24. Philorthragoriscus serratus (Kröyer), ♀ & ♂. (p. 104.)
  - 11. ? Antennule.
  - 12. Antenna.
  - 13. Mandible.
  - 14. Maxilla.
  - 15. First maxilliped.
  - 16. Second maxilliped.
  - 17. Foot of first pair.
  - 18. Foot of third pair.
  - 19. Foot of fourth pair.
  - 20. Abdomen and furcal joints.
  - 21. 3 Antenna.
  - 22. Maxilla.
  - 23. Second maxilliped.
  - 24. Foot of second pair.





#### PLATE XXVIII.

Figs.

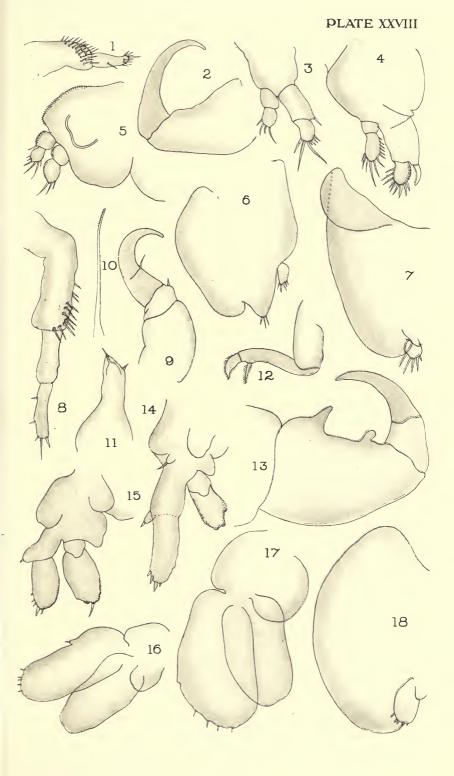
1-7. Cecrops latreillii Leach, ♀. (p. 98.)

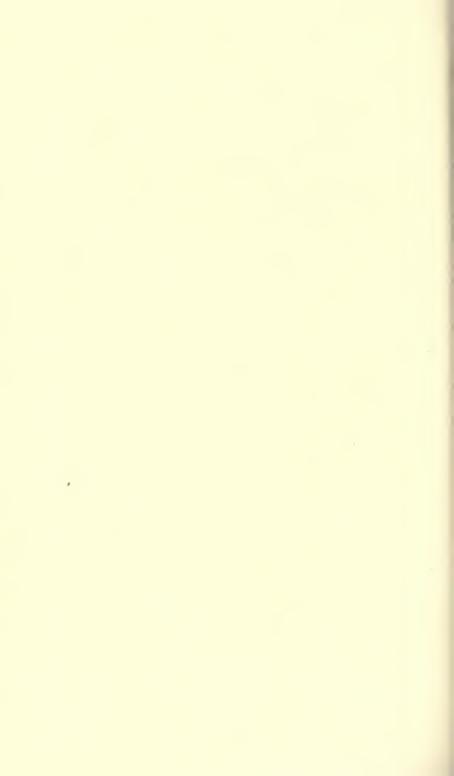
1. Antennule.

- 2. Second maxilliped.
- 3. Foot of first pair.
- 4. Foot of second pair.
- 5. Foot of third pair.
- 6. Foot of fourth pair.

7. Fifth foot.

- 8-18. Orthagoriscola muricata (Kröyer), ?. (p. 100.)
  - 8. Antennule.
  - 9. Antenna.
  - 10. Mandible.
  - 11. Maxilla.
  - 12. First maxilliped.
  - 13. Second maxilliped.
  - 14. Foot of first pair.
  - 15. Foot of second pair.
  - 16. Foot of third pair.
  - 17. Foot of fourth pair.
  - 18. Fifth foot.





# PLATE XXIX.

Figs.

1. Echthrogaleus lütkeni (Norman). (p. 90.)

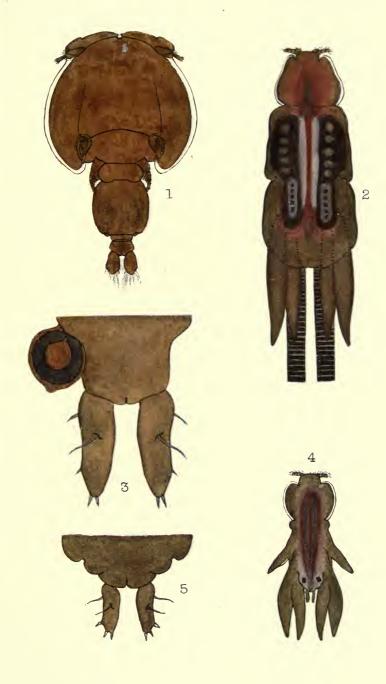
1. Dorsal view, & (enlarged). 2-5. Lernanthropus kröyeri P. J. van Beneden. (p. 110.)

2. Dorsal view,  $\varphi$ ,  $\times$  13.4.

3. Abdomen and furcal joints, ? (much enlarged).

4. Dorsal view,  $\mathcal{E}_{1} \times 13.4$ .

5. Abdomen and furcal joints, & (much enlarged).

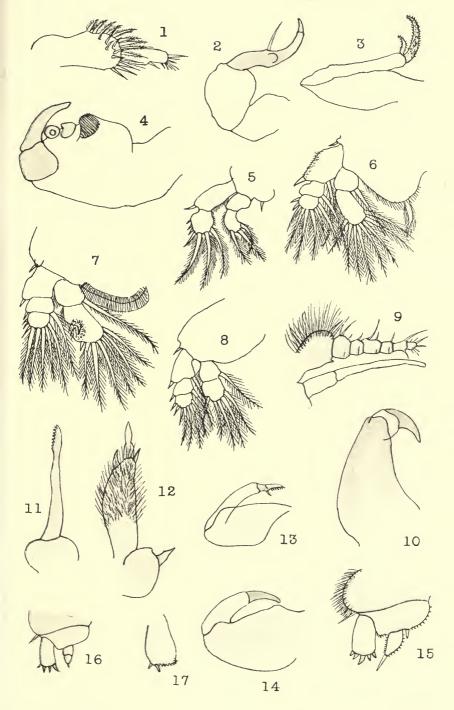




## PLATE XXX.

Figs.

- 1-8. Echthrogaleus lütkeni (Norman), 3. (p. 90.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. First maxilliped.
  - 4. Second maxilliped.
  - 5. Foot of first pair.
  - 6. Foot of second pair.
  - 7. Foot of third pair.
  - 8. Foot of fourth pair.
- 9-17. Lernanthropus kröyeri P. J. van Beneden, 9. (p. 110.)
  - 9. Antennule with secondary process.
  - 10. Antenna.
  - 11. Mandible.
  - 12. Maxilla.
  - 13. First maxilliped.
  - 14. Second maxilliped.
  - 15. Foot of first pair.
  - 16. Foot of second pair.
  - 17. Outer ramus of second foot, 3.





#### PLATE XXXI.

Figs.

1-6. Elytrophora brachyptera Gerstaecker, ♀. (p. 83.)

1. Antenna.

- 2. First maxilliped.
- 3. Second maxilliped.
- 4. Foot of first pair.
- 5. Foot of fourth pair.

6. Antenna, 3.

- 7-18. Dichelestium oblongum (Abildgaard), ♀ & ♂. (p. 106.)
  - 7. 2 Antennule.
  - 8. Antenna.
  - 9. Mandible.
  - 10. Maxilla.
  - 11. First maxilliped.
  - 12. Second maxilliped.
  - 13. Foot of first pair.
  - 14. Foot of second pair.
  - 15. Foot of fourth pair.
  - 16. 3 Antenna.
  - 17. Foot of second pair.
  - 18. Foot of fourth pair.



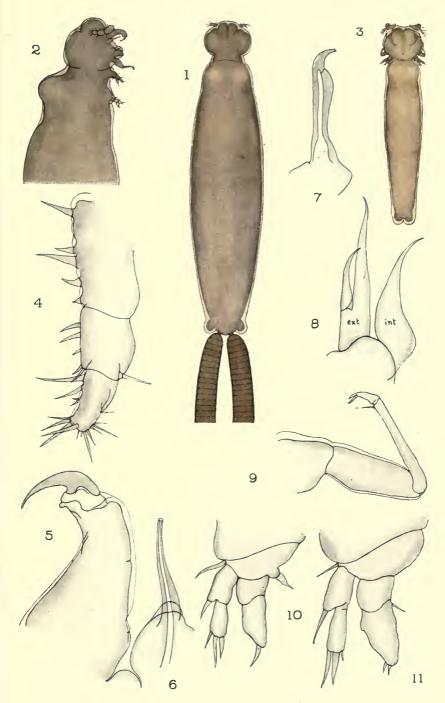
## PLATE XXXII.

Figs.

1-11. Hatschekia mulli (P. J. van Beneden), ?. (p. 114.)

1. Adult female, dorsal view, × 24.5.

- 2. Lateral view of head and thorax, adult × 36.
- 3. Dorsal view, juv., × 36.
- 4. Antennule.
- 5. Antenna.
- 6. Spiniform process at base of antenna.
- 7. Mandible.
- 8. Maxilla.
- 9. Maxilliped.
- 10. Foot of first pair.
- 11. Foot of second pair.





### PLATE XXXIII.

Figs.

1. Hatschekia cluthæ (T. Scott). (p. 117.)

1. Dorsal view, ♀, × 58.

- 2. Hatschekia labracis (P. J. van Beneden). (p. 115.) 2. Dorsal view,  $\Im$ ,  $\times$  28.
- 3, 4. Hatschekia hippoglossi (Kröyer). (p. 112.)

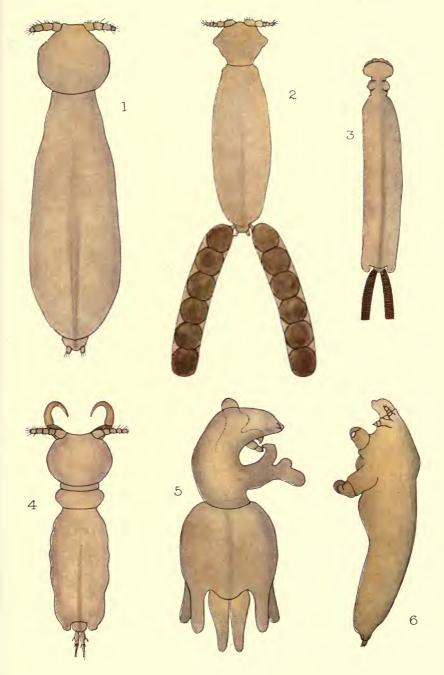
3. Dorsal view,  $9, \times 7$ .

4. Dorsal view, &, × 34.

5. Thysanote impudica (Nordmann). (p. 187.)

5. Dorsal view, ♀, × 10.

6. ? Lernæopoda lampri sp. nov. (p. 202.)
6. Lateral view, 3, x 14.

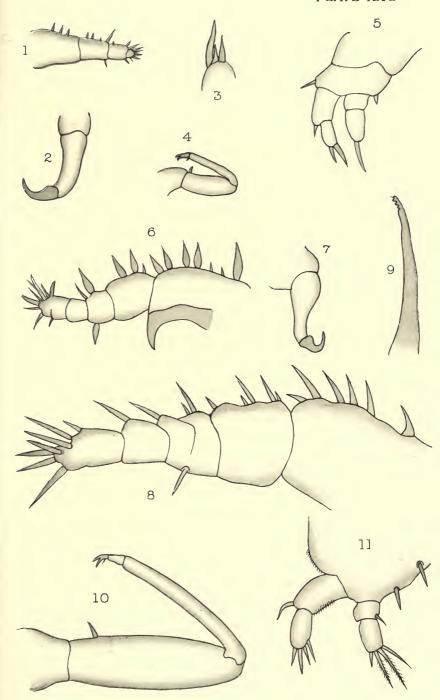




### PLATE XXXIV.

Figs.

- 1-5. Hatschekia cluthæ (T. Scott), ?. (p. 117.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. Maxilla.
  - 4. Second maxilliped.
  - 5. Foot of first pair.
- 6, 7. Hatschekia labracis (P. J. van Beneden), 9. (p. 115.)
  - 6. Antennule.
  - 7. Antenna.
- 8-11. Hatschekia hippoglossi (Kröyer), 9. (p. 112.)
  - 8. Antennule.
  - 9. Mandible.
  - 10. Second maxilliped.
  - 11. Foot of first pair.





### PLATE XXXV.

Figs.

1, 2. Hatschekia cornigera T. Scott, \( \chi \). (p. 118.)

1. Dorsal view,  $\times$  40.

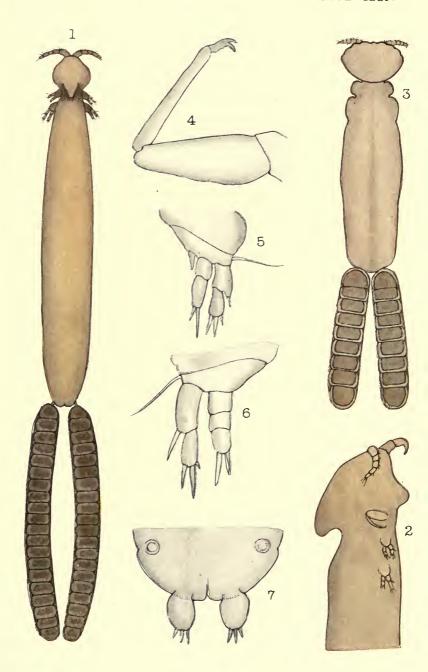
- 2. Lateral view of head and thorax, × 80.
- 3-7. Hatschekia pygmæa T. Scott, ?. (p. 119.)

3. Dorsal view,  $\times$  45.

4. Maxilliped.

5. Foot of first pair.6. Foot of second pair.

7. Abdomen and furcal joints.

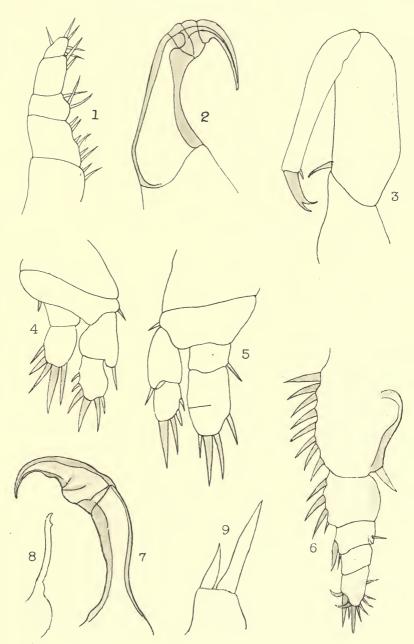




# PLATE XXXVI.

#### Figs.

- 1-5. Hatschekia cornigera T. Scott, \( \begin{aligned} \cdot \cdot \). (p. 118.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. Maxilliped.
  - 4. Foot of first pair.
- 5. Foot of second pair. 6-9. *Hatschekia pygmæa* T. Scott, ♀. (p. 119.)
  - 6. Antennule.
  - 7. Antenna.
  - 8. Mandible.
  - 9. Maxilla.





### PLATE XXXVII.

Figs.

1. Eudactylina acuta P. J. van Beneden. (p. 126.)

1. Dorsal view, ♀, × 41.

2, 3. Eudactylina acanthii A. Scott. (p. 128.)

2. Dorsal view, ♀, × 41.

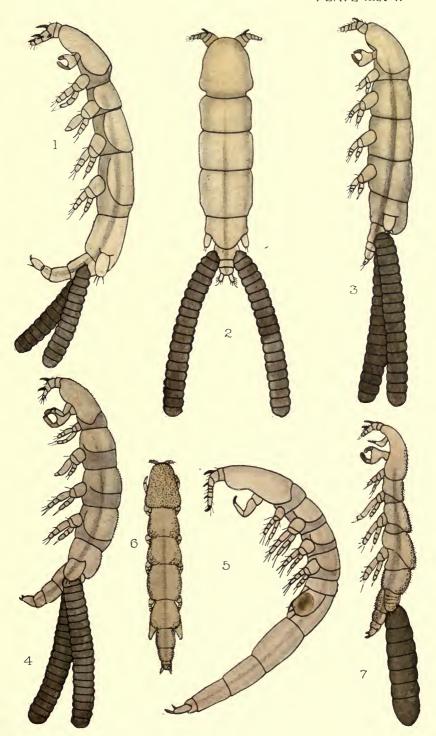
- 3. Lateral view, ♀, × 41.
- 4, 5. Eudactylina similis T. Scott. (p. 130.)

4. Lateral view, ♀, × 34.

- 5. Lateral view, 3, × 34.
- 6, 7. Eudactylina minuta T. Scott. (p. 133.)

6. Dorsal view, 9,  $\times$  40.

7. Lateral view, 2, × 40.





## PLATE XXXVIII.

Figs.

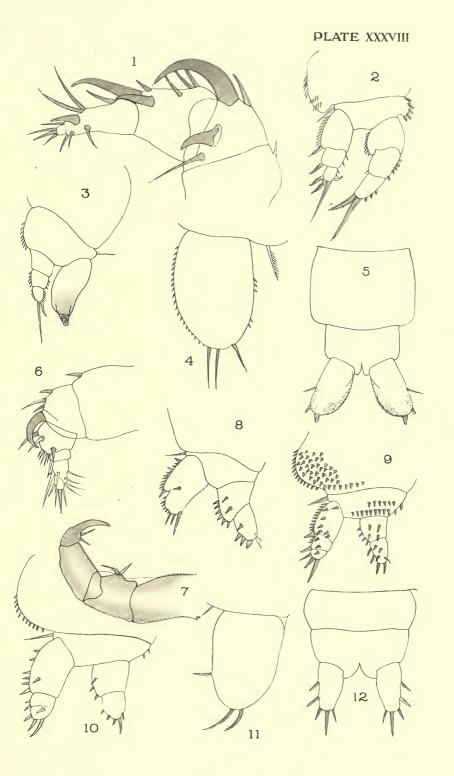
1-5. Eudactylina acuta P. J. van Beneden, ♀. (p. 126.)

1. Antennule.

- 2. Foot of first pair.
- 3. Foot of second pair.

4. Foot of fifth pair.

- 5. Part of abdomen, and furcal joints.
- 6-12. Eudactylina acanthii A. Scott, ?. (p. 128.)
  - 6. Antennule.
  - 7. Antenna.
  - 8. Foot of first pair.
  - 9. Foot of second pair.
  - 10. Foot of fourth pair.
  - 11. Foot of fifth pair.
  - 12. Part of abdomen, and furcal joints.

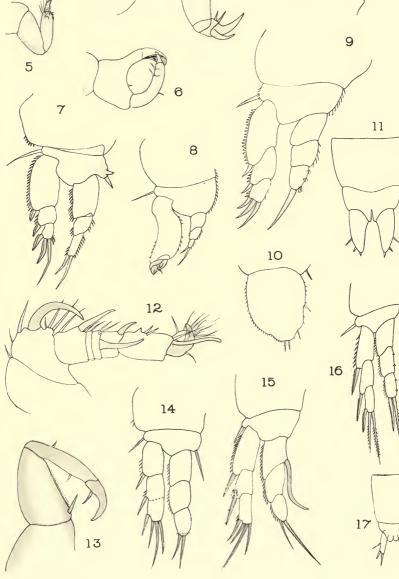




#### PLATE XXXIX.

Figs.

- 1-17. Eudactylina similis T. Scott, ? & ♂. (p. 130.)
  - 1. ? Antennule.
  - 2. Antenna.
  - 3. Mandible.
  - 4. Maxilla.
  - 5. First maxilliped.
  - 6. Second maxilliped.
  - 7. Foot of first pair.
  - 8. Foot of second pair.
  - 9. Foot of fourth pair.
  - 10. Foot of fifth pair.
  - 11. Part of abdomen, and furcal joints.
  - 12. 3 Antennule.
  - 13. Second maxilliped.
  - 14. Foot of first pair.
  - 15. Foot of second pair.
  - 16. Foot of fourth pair.
  - 17. Part of abdomen, and furcal joints.

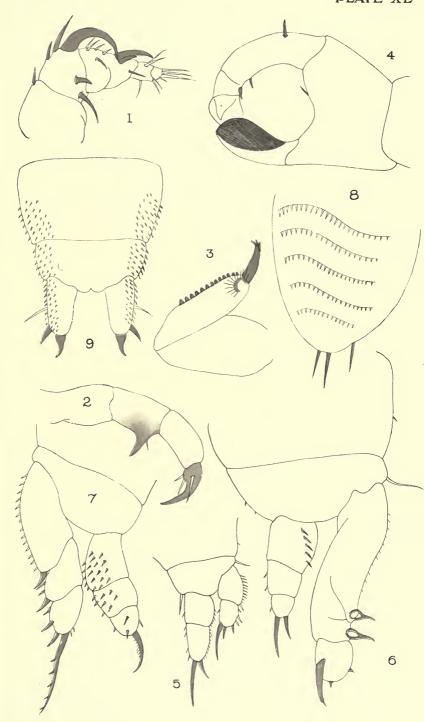




### PLATE XL.

Figs.

- 1-9. Eudactylina minuta T. Scott, ♀. (p. 133.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. First maxilliped.
  - 4. Second maxilliped.
  - 5. Foot of first pair.
  - 6. Foot of second pair.
  - 7. Foot of fourth pair.
  - 8. Foot of fifth pair.
  - 9. Part of abdomen, and furcal joints.





# PLATE XLI.

Figs.

- 1. Congericola pallida P. J. van Beneden, 9 dorsal view,  $\times$  17. (p. 124.)
- 2-4. Chondracanthus depressus T. Scott. (p. 172.)

2. ♀ Dorsal view, × 12.

- 3. Posterior end of body in dorsal view, × 12.
- 4. Var. oblongus, \( \rangle \) dorsal view, \( \times 12. \) (p. 173.)
  5. Chondracanthus zei De la Roche, \( \rangle \) dorsal view, \( \times 5. \) (p. 177.)
- 6. Chondracanthus ornatus T. Scott, 2 dorsal view, x 10. (p. 182.)



## PLATE XLII.

Figs.

1-8. Lernæa branchialis Linn. (p. 142.)

1. Mature female, side view,  $\times$  4.

2. Newly hatched nauplius × 51. (p. 21.)

3. Very young female, unfertilized, dorsal view, × 51½. (p. 21.)

4. Fertilized female, after leaving the gills of a flounder, dorsal view  $\times 27\frac{1}{2}$ . (p. 21.)

5. Mature male, dorsal view,  $\times$  28½. (p. 21.)

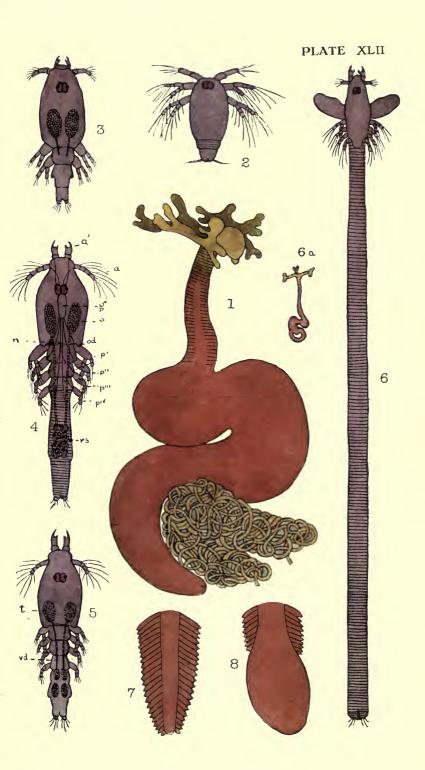
6. Fertilized female, 'Pennella stage,' just after attachment to the gills of a whiting, dorsal view,  $\times 15\frac{1}{2}$ . (p. 23.)

6a. A later stage than fig. 6; the folding has just been completed; side view, natural size. (p. 23.)

7. Apex of the gill-ray of a flounder, normal,  $\times$  18.

(p. 22.)

8. Apex of the gill-ray of a flounder, shewing malformation caused by the young Lernæa,  $\times$  18. (p. 22.)





## PLATE XLIII.

Figs.

1-7. Lernæa branchialis Linn. (p. 142.)

1. Fertilized female, ventral view, shewing the appendages, the reproductive organs, and the nervous

system,  $\times 47\frac{1}{2}$ . (p. 22.)

2. Mature female, seen from the right side, shewing the maxilliped and four pairs of feet, the alimentary canal, and the reproductive organs; from a specimen cleared in xylol, × 4. (p. 19.)

3. Transverse section through the middle of the swollen region, shewing the ovary, the oviducts, cement

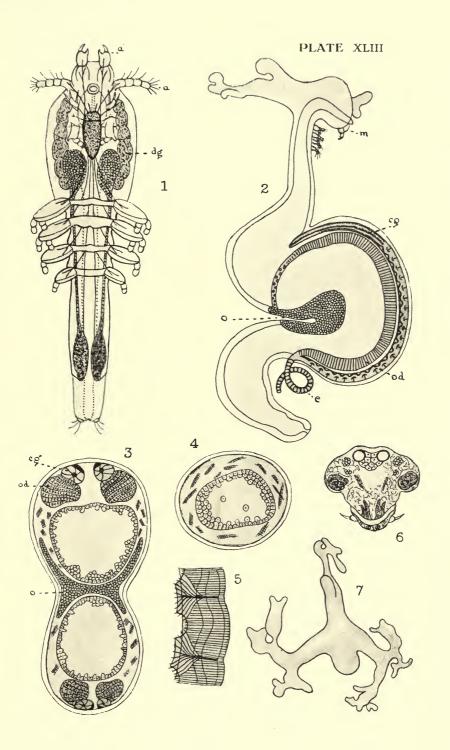
glands, and intestine,  $\times$  9. (p. 21.)

4. Transverse section through the abdomen, × 20. (p. 22.)

5. Portion of the cement-gland,  $\times$  20. (p. 21.)

6. Transverse section through the region of the eyes of a young fertilized female, × 80. (p. 22.)

7. Front view of the anchor processes of an adult female, × 4. (p. 22.)





# Plate 44

#### PLATE XLIV.

Fras

1. Lernæa lusci Bassett-Smith, ♀ side view, × 6. (p. 144.)

2. Another specimen (♀) in situ on gill-arch of fish, × about 2.

3. Lernæa minuta, T. Scott, ♀ side view, × about 5. (p. 145.)

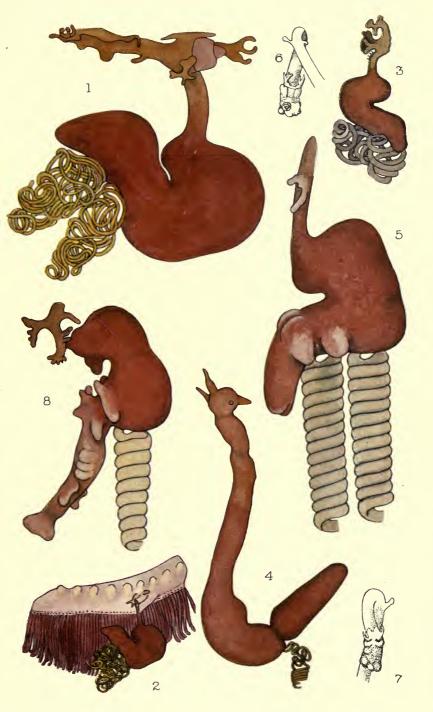
4. Lernæa lumpi, T. Scott, ♀ side view, × about 2. (p. 146.)

5-7. Hæmobaphes cyclopterina (Fabr.). (p. 147).

5. Side view (head wanting),  $\times$  9.

6. The head, after Steenstrup & Lütken, enlarged.7. The same, seen from another position, enlarged.

8. Hæmobaphoides ambiguus T. Scott, γ side view, × 7.
(p. 148.)





## PLATE XLV.

Figs.

1. Rebelula edwardsi (Kolliker), ? dorsal view, enlarged. (p. 162.)

2, 3. Philichthys xiphiæ Steenstrup, Q. (p. 139.)

A young specimen, dorsal view, enlarged.
 An older specimen, dorsal view, enlarged.

4, 5. Dichelestium oblongum (Abildgaard). (p. 106.)

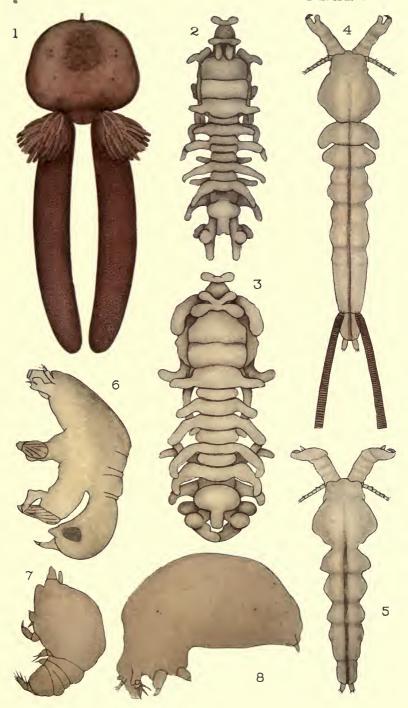
4. Dorsal view, ♀, × about 4.
5. Dorsal view, ♂, × about 4.

6. Tripaphylus musteli P. J. van Beneden, & side view, enlarged. (p. 160.)

7. Chondracanthus ornatus T. Scott, & side view, greatly

enlarged. (p. 182.)

8. Brachiella rostrata Kröyer, & side view, × about 25. (p. 205.)





## PLATE XLVI.

Figs.

1-5. Lernæenicus sprattæ (Sowerby). (p. 156.)

Female in situ in eye of sprat, natural size.
 Female removed from fish, × about 2½.

3. Head and neck of female, more enlarged.

4. Antennule, greatly enlarged.5. Antenna, greatly enlarged.

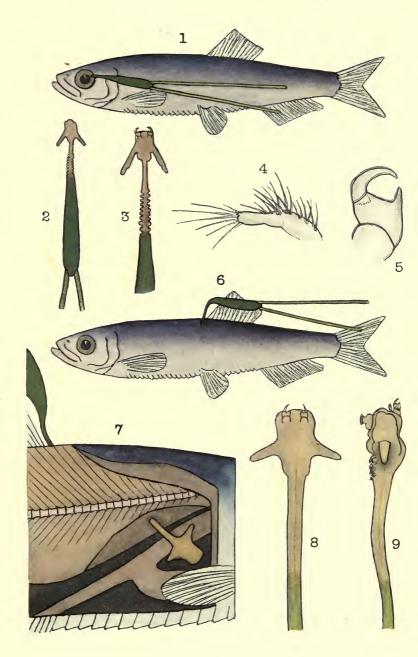
6-9. Lernæenicus encrassicola (Turton). (p. 158.)

6. Female in situ in back of sprat, natural size.

7. Shows head of female penetrating into the abdominal cavity of the sprat, enlarged.

8. Head of female, ventral view, enlarged.

9. Head, side view, enlarged.





## PLATE XLVII.

Figs.

1. Chondracanthus cornutus (O. F. Müller), ?, × about 6. (p. 168.)

2. Chondracanthus cornutus, var. \$,  $\times$  6. (p. 169.)

3. Chondracanthus annulatus Olsson, ?,  $\times$  4. (p. 169.)

4. Chondracanthus soleæ Kröyer, ?, × 7. (p. 170.)

5. Chondracanthus fluræ Kröyer, ?, × 6. (p. 171.)

6. Chondracanthus limandæ Kröyer,  $\mathcal{L}$ ,  $\times$  13. (p. 174.) 7. Chondracanthus clavatus Bassett-Smith,  $\mathcal{L}$ ,  $\times$  8. (p. 175.)

8. Chondracanthus merluccii (Holten), \( \frac{1}{2}, \times 8. \) (p. 180.)



## PLATE XLVIII.

Figs.

1-3. Lepeophtheirus thompsoni Baird, 9. (p. 69.)

1. Sternal fork.

2. Sternal fork, another form.

3. Foot of fourth pair.

4, 5. Lepeophtheirus pollachii Bassett-Smith, ♀. (p. 73.)

4. Sternal fork.

5. First maxilliped.

- 6. Caligus brevicaudatus A. Scott, \(\varphi\). Sternal fork. (p..56.)
- 7. Caligus diaphanus Nordmann, ?. Sternal fork. (p. 60.)
- 8-12. Lernæopoda salmonea (Linn.), \( \cdot \). (p. 199.)
  - 8. Antennule.
  - 9. Antenna.
  - 10. Mandible.
  - 11. Maxilla.

12. First maxilliped.

13-16. Chondracanthus nodosus (O. F. Müller), \( \square\). (p. 176.)

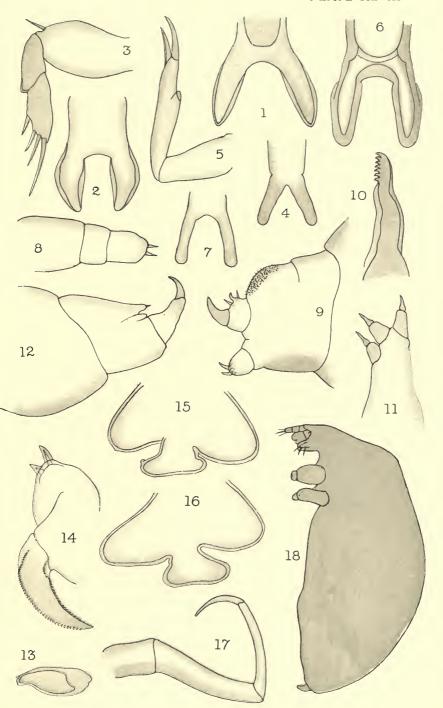
13. Antennule.

- 14. Mandible and maxilla.
- 15. Foot of first pair.

16. Foot of second pair.

- 17. Ergasilus nanus P. J. van Beneden, ?. Antenna. (p. 34.)
- 18. Brachiella insidiosa Heller, adult male, side view, × 18. (p. 206.)

(Figs. 1-17 much enlarged.)



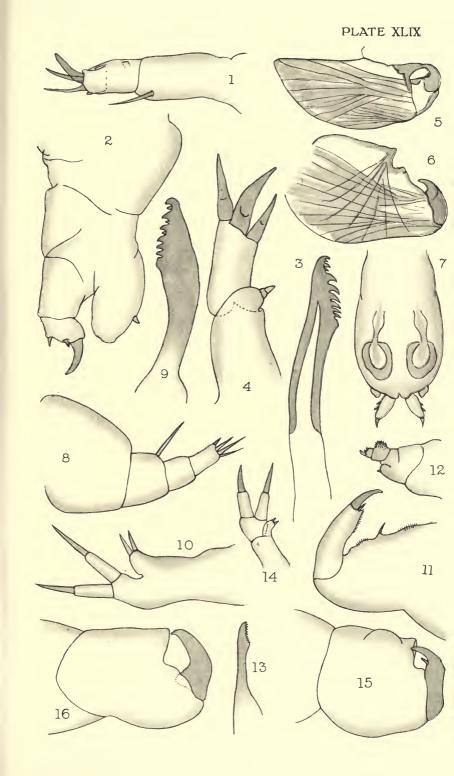


## PLATE XLIX. .

Figs.

- 1-7. Tripaphylus musteli (P. J. van Beneden), 3. (p. 160.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. Mandible.
  - 4. Maxilla.
  - 5. First maxilliped.
  - 6. Second maxilliped.
  - 7. Abdomen.
- 8-11. Thysanote impudica (Nordmann), Q. (p. 187.)
  - 8. Antennule.
  - 9. Mandible.
  - 10. Maxilla.
  - 11. First maxilliped.
- 12-16. (?) Lernæopoda lampri sp. n., J. (p. 202.)
  - 12. Antenna.
  - 13. Mandible.
  - 14. Maxilla.
  - 15. First maxilliped.
  - 16. Second maxilliped.

(Figures much enlarged.)





### PLATE L.

Figs.

1-5. Lerneocera cyprinacea (Linn.), Q. (p. 154.)

1. A specimen seen from the side,  $\times$  9.

2. The head, front view.

3. The head, seen from another position, more enlarged than fig. 2.

4. A specimen of L. cyprinacea,  $\times$  5. (After Selago.)

5. Another specimen, x about 3. (After Baird.) 6-8. Achtheres percarum Nordmann. (p. 193.)

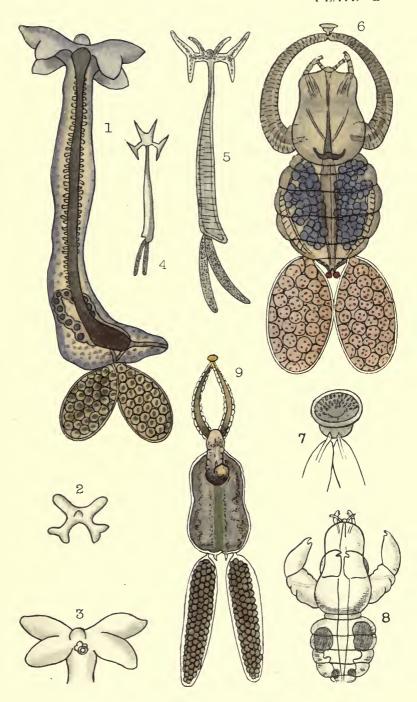
6. A female, dorsal view,  $\times$  18.

7. Distal extremity of second maxillipeds, enlarged.

8. A male, dorsal view,  $\times$  85.

9. Brachiella bispinosa Nordmann, ♀ dorsal view, × 7. (p. 211.)

(Figs. 1-3 and 6-9 after Nordmann.)





## PLATE LI.

Figs.

1. Tripaphylus musteli (P. J. van Beneden),  $\mathfrak{P}$ ,  $\times$   $2\frac{1}{2}$  (head wanting). (p. 160.)

2. Pennella orthagorisci E. P. Wright, \, about natural size (head wanting). (p. 150.) (Thomas Edward's specimen.) 3. Sphyrion lumpi (Kröyer),  $\mathfrak{P}$ ,  $\times$  about 2. (p. 164.)

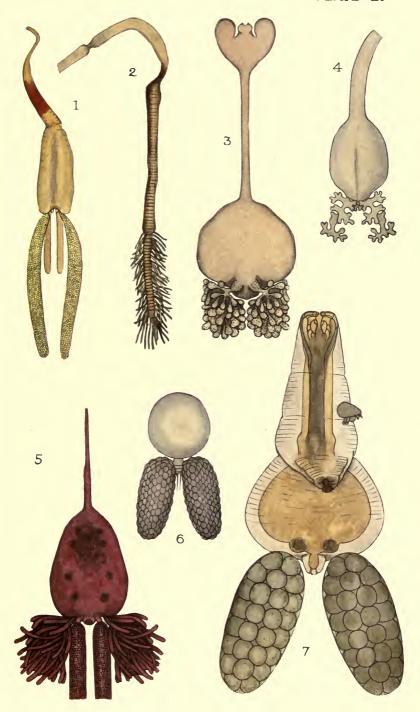
4. A smaller specimen, rather imperfect, × about 4.

5. Rebelula edwardsi (Kölliker), 2, x about 2 (head wanting). (p. 162.)

6. Thersitina gasterostei (Pagenstecher), ?,  $\times$  27. (p. 42.)

7. Clavella lophii (M. Edwards),  $\mathfrak{P}$ ,  $\times$  2. (p. 226.)

(All the figures shew dorsal view.)





## PLATE LII.

Figs.

1-3. Chondracanthus nodosus (O. F. Müller). (p. 176.)

1. Adult female, dorsal view,  $\times 8\frac{1}{2}$ .

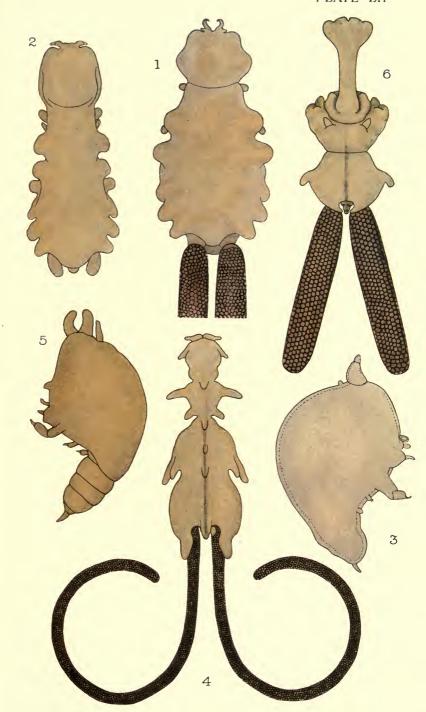
2. A young specimen, dorsal view, x about 9.

3. An adult male, side view,  $\times$  80.

4. Chondracanthus lophii Johnston, ♀, × above 5. (p. 179.)

5. Chondracanthus cornutus (O. F. Müller), 3, side view, × about 100. (p. 168.)

6. Medesicaste asellinum (Linn.), ? dorsal view, × 7½. (p. 184.)





# PLATE LIII.

Figs.

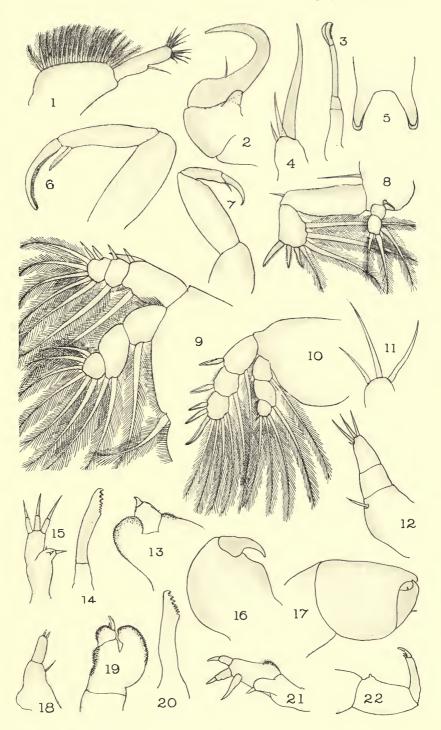
- 1-4. Chondracanthus cornutus (O. F. Müller), ? & 3. (p. 168.)
  - 1. ? Antennule.
  - 2. Mandible.
  - 3. 3 Foot of first pair.
  - 4. Foot of second pair.
- 5-9. Chondracanthus cornutus, var., ♀ & ♂. (p. 169.)
  - 5. ? Antennule.
  - 6. Mandible.
  - 7. 3 Antennule.
  - 8. Foot of first pair.
  - 9. Foot of second pair.
- 10, 11. Chondracanthus fluræ Kröyer, ♀. (p. 171.)
  - 10. Antennule.
  - 11. Mandible.
- 12-15. Chondracanthus soleæ Kröyer, ♀ & ♂. (p. 170.)
  - 12. ? Antennule.
  - 13. Mandible.
  - 14. & Antennule.
  - 15. Foot of second pair.
- 16–19. Chondracanthus merluccii (Holten), ♀ & ♂. (p. 180.)
  - 16. ? Antennule.
  - 17. Mandible.
  - 18. & Foot of first pair.
  - 19. Foot of second pair.



# PLATE LIV.

Figs.

- 1-11. Trebius caudatus Kröyer, ♀. (p. 81.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. Mandible.
  - 4. Maxilla.
  - 5. Sternal fork.
  - 6. First maxilliped.
  - 7. Second maxilliped.
  - 8. Foot of first pair.
  - 9. Foot of second pair.
  - 10. Foot of fourth pair.
  - 11. Fifth foot.
- 12-17. Charopinus dalmanni (Retzius), ♀ & ♂. (p. 189.)
  - 12. Antennule.
  - 13. Antenna.
  - 14. Mandible.
  - 15. Maxilla.
  - 16. First maxilliped.
  - 17. & Second maxilliped.
- 18-22. Charopinus ramosus Kröyer, ?. (p. 191.)
  - 18. Antennule.
  - 19. Antenna.
  - 20. Mandible.
  - 21. Maxilla.
  - 22. First maxilliped.





## PLATE LV.

Figs.

1-4. Charopinus dalmanni (Retzius). (p. 189.)

1. Female, dorsal view,  $\times$  2.

2. Female, side view, × 2.

3. Ends of the second maxillipeds, slightly enlarged.

4. Male, side view,  $\times$  36.

- 5. Charopinus dubius T. Scott,  $\mathfrak{P}$ , dorsal view,  $\times$   $3\frac{1}{2}$ . (p. 190.)
- 6, 7. Charopinus ramosus Kröyer, ♀. (p. 191.)

6. Dorsal view,  $\times$  4.

7. Side view,  $\times$  4.

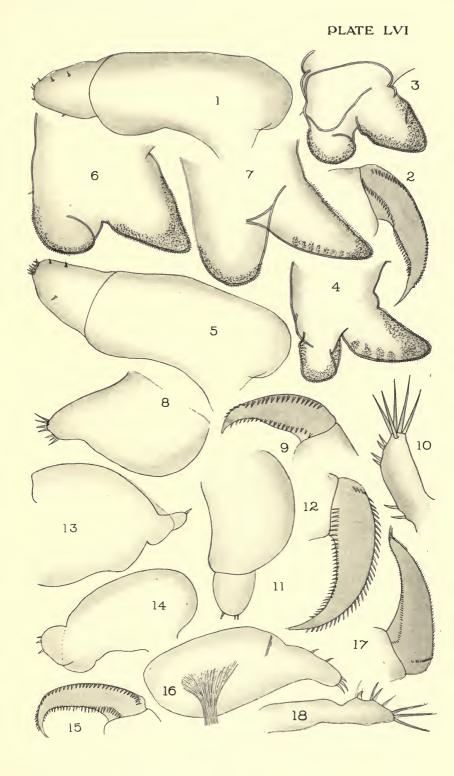


#### PLATE LVI.

Figs.

- 1-4. Chondracanthus depressus T. Scott, \( \cdot \). (p. 172.)
  - 1. Antennule.
  - 2. Mandible.
  - 3. Foot of first pair.
  - 4. Foot of second pair.
- 5-7. Chondracanthus depressus, var. oblongus, ♀. (p. 173.)
  - 5. Antennule.
  - 6. Foot of first pair.
  - 7. Foot of second pair.
- 8-10. Chondracanthus annulatus Olsson, ? & 3. (p. 169.)
  - 8. ? Antennule.
  - 9. Mandible.
  - 10. 3 Antennule.
- 11, 12. Chondracanthus limandæ Kröyer, \( \text{?} . \) (p. 174.)
  - 11. Antennule.
  - 12. Mandible.
  - 13. Chondracanthus zei De la Roche, \( \varphi \). Antennule.

    (p. 177.)
- 14, 15. Chondracanthus clavatus Bassett-Smith, 9. (p. 175.)
  - 14. Antennule.
  - 15. Mandible.
- 16-18. Chondracanthus lophii Johnston, 9. (p. 179.)
  - 16. Antennule.
  - 17. Mandible.
  - 18. Maxilla.





## PLATE LVII.

Figs.

1-7. Lernæopoda cluthæ T. Scott, ♀ & ♂. (p. 198.)

1. ? Antennule.

- 2. Antenna.
- 3. Mandible.
- 4. Maxilla.
- 5. First maxilliped.
- 6. 3 First maxilliped.
- 7. Second maxilliped.
- 8-12. Lernæopoda bidiscalis W. F. de Visme Kane, ?. (p. 200.)
  - 8. Antennule.
  - 9. Antenna.
  - 10. Mandible.
  - 11. Maxilla.
  - 12. First maxilliped.
- 13-17. Lernæopoda elongata (Grant), ?. (p. 195.)
  - 13. Antennule.
  - 14. Antenna.
  - 15. Mandible.
  - 16. Maxilla.
  - 17. First maxilliped.
- 18, 19. Medesicaste asellinum (Linn.), ?. (p. 184.)
  - 18. Antennule.
  - 19. Mandible.

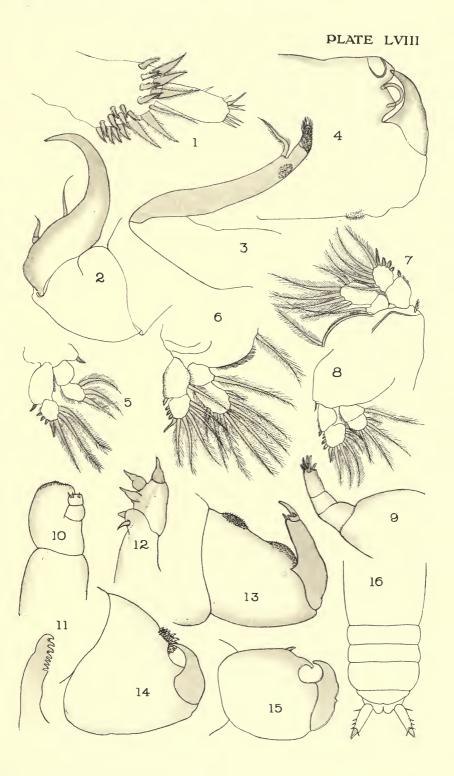


### PLATE LVIII.

Fras

- 1-8. Pandarus bicolor Leach, & (juv.), (= Nogagus latus T. Scott). (p. 95.)
  - 1. Antennule.
  - 2. Antenna.
  - 3. First maxilliped.
  - 4. Second maxilliped.
  - 5. Foot of first pair.
  - 6. Foot of second pair.
  - 7. Foot of third pair.
  - 8. Foot of fourth pair.
- 9–15. Lernæopoda galei Kröyer, ♀ & ♂. (p. 197.)
  - 9. Antennule.
  - 10. Antenna.
  - 11. Mandible.
  - 12. Maxilla.
  - 13. First maxilliped.
  - 14. Second maxilliped.
  - 15. Second maxilliped.
  - 16. Lernæopoda cluthæ T. Scott, &. (p. 198.)

16. Abdomen and caudal furca.





# PLATE LIX.

Figs.

1-6. Lernæopoda salmonea (Linn.). (p. 199.)

1. Female, dorsal view, × 12.

The same, side view, × 12.
 Another specimen, ♀ adult, dorsal view, × 8 (to shew variation).

4. The same, seen from the side,  $\times$  8.

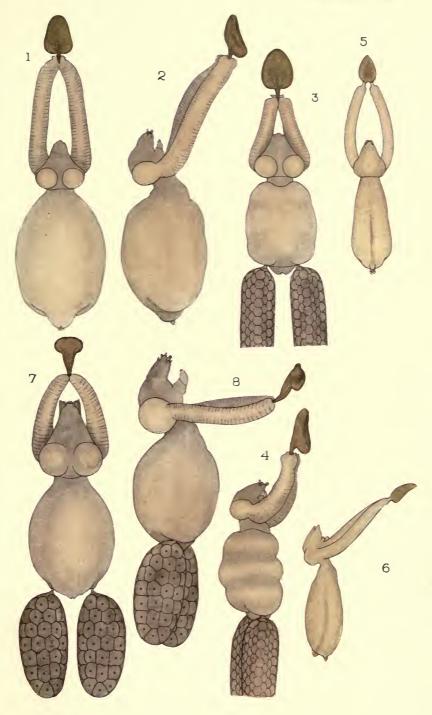
5. A female, somewhat immature, dorsal view, enlarged.

6. The same, seen from the side, enlarged.

7, 8. Achtheres percarum Nordmann, ?. (p. 193.)

7. Dorsal view, much enlarged.

8. The same, seen from the side.





## PLATE LX.

Figs.

1-3. Lernæopoda cluthæ T. Scott. (p. 198.)

1. Female, dorsal view,  $\times$  8.

2. The same, seen from the side,  $\times$  8.

3. Male, seen from the side,  $\times$  about 50.

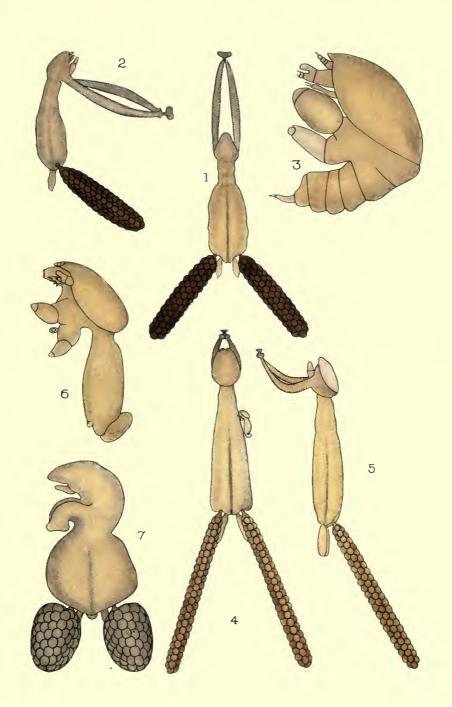
4-6. Lernæopoda galei Kröyer. (p. 197.)

4. Female dorsal view,  $\times$  4.

5. The same, seen from the side,  $\times$  4.

6. Male, seen from the side, x about 50.

7. Brachiella ovalis (Kröyer), seen partly from the side, × about 12. (p. 210.)





### PLATE LXI.

Figs.

1, 2. Lernæopoda bidiscalis W. F. de Visme Kane. (p. 200.)

1. Female, dorsal view,  $\times$  about 6.

2. The same, seen from the side, x about 6.

3, 4. Lernæopoda elongata (Grant). (p. 195.)

3. Female, dorsal view, × 2·3.

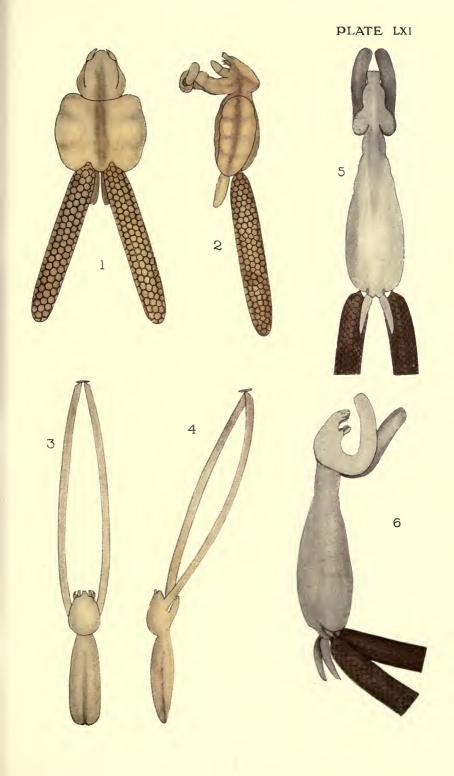
4. The same, seen from the side,  $\times$  2.3.

5, 6. Lernæopoda similis sp. n. (p. 202.)

5. Female, dorsal view,  $\times$  10½.

6. The same, seen from the side,  $\times 10\frac{1}{2}$ .

Note.—Vol. I, p. 195, for Plate LXI, figs. 5, 6; read figs. 3, 4; and page 202, for Plate LXI, figs. 3, 4; read figs. 5, 6.





# PLATE LXII.

Figs.

1. Brachiella trigla Claus, ♀, ventral aspect, × 20. (p. 209.)

· 2. Brachiella insidiosa Heller, ?, side view, × 5. (p. 206.)

3. Brachiella rostrata Kröyer, 2, side view, x 5. (p. 205.)

4, 5. Brachiella merluccii Bassett-Smith, ♀, × 6. (p. 207.)

4. Dorsal view.

5. Side view.

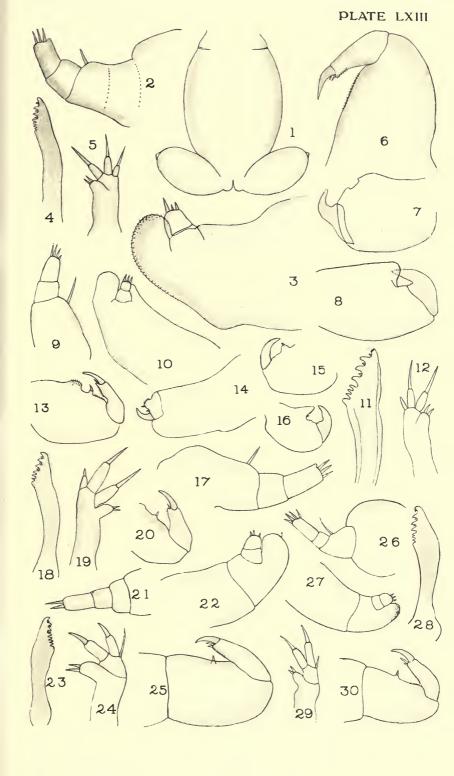


### PLATE LXIII.

Figs.

- 1. Lernæopoda galei Kröyer, ♂, abdomen and caudal furca, × 26. (p. 197.)
- 2-8. Brachiella rostrata Kröyer, ♀ & ♂. (p. 205.)
  - 2. ♀ Antennule.
  - 3. Antenna.
  - 4. Mandible.
  - 5. Maxilla.
  - 6. First maxilliped.7. S First maxilliped.
  - 8. Second maxilliped.
- 9-16. Brachiella insidiosa Heller, ♀ & ♂. (p. 206.)
  - 9. ♀ Antennule.
  - 10. Antenna.
  - 11. Mandible.
  - 12. Maxilla.
  - 13. First maxilliped.
  - 14. 3 Antenna.
  - 15. First maxilliped.
  - 16. Second maxilliped.
- 17-20. Brachiella merluccii Bassett-Smith, ♀. (p. 207.)
  - 17. Antennule.
  - 18. Mandible.
  - 19. Maxilla.
  - 20. First maxilliped.
- 21–25. Brachiella triglæ Ĉlaus, ♀. (p. 209.)
  - 21. Antennule.
  - 22. Antenna.
  - 23. Mandible.
  - 24. Maxilla.
  - 25. First maxilliped.
- 26-30. Brachiella ovalis (Kröyer), Q. (p. 210.)
  - 26. Antennule.
  - 27. Antenna.
  - 28. Mandible.
  - 29. Maxilla.
  - 30. First maxilliped.

(Figures much enlarged.)





#### PLATE LXIV.

Figs.

1-3. Achtheres percarum Nordmann, Q. (p. 193.)

1. Anterior end, ventral aspect, shewing mouth-appendages.

2. First maxillipeds, side view.

3. Second maxilliped, side view.

4-6. Brachiella thynni Cuvier. (p. 204.) 4. Male, seen from the side, × 30.

5. Female, scarcely mature, head wanting, slightly enlarged.

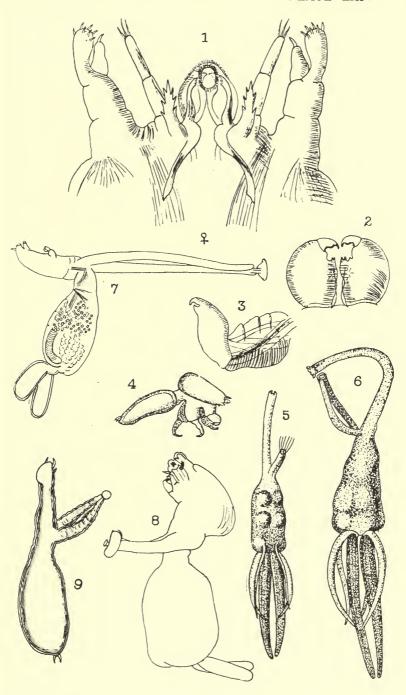
6. Female, adult, × about 3.

7. Brachiella parkeri G. M. Thomson, Q,  $\times$   $3\frac{1}{2}$ . (p. 212.)

8. Brachiella pastinacæ P. J. van Beneden,  $\mathcal{P}$ , × 10. (p. 211.)

9. Brachiella bispinosa Nordmann, ♀, × 7, side view; after Nordmann. (p. 211.)

(Figs. 1-3 and 9 after Nordmann; 4-6 after Steenstrup & Lütken; 7 and 8 after Miss Bainbridge.)





#### PLATE LXV.

Figs.

1. Clavella brevicollis (M. Edwards), ♀, side view, × about 20. (p. 220.)

2, 3. Clavella uncinata (O. F. Müller). (p. 214.)

2. ♀, Side view, × about 7.

3. 3, Side view, × about 45.

4. Clavella rugosa (Kröyer),  $\circ$ , side view,  $\times$  4½. (p. 216.)

A male is shewn attached to the cephalothorax.

5. Clavella rugosa (Kröyer), &, side view, x about 40.

6. Clavella (?) uncinata, ? (juv.), with two males attached to the abdomen, enlarged. (p. 214.)

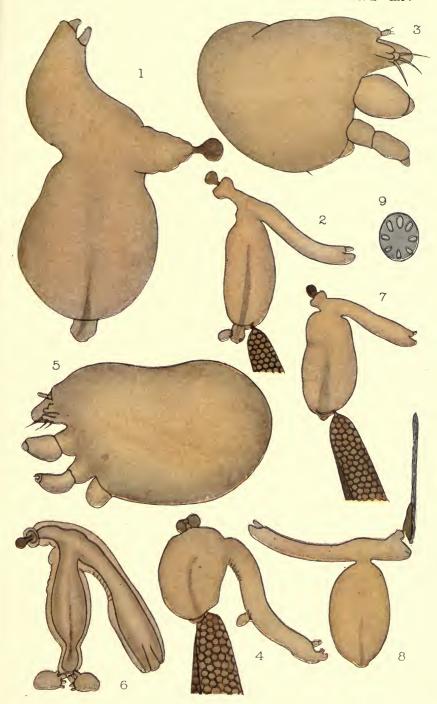
7. Clavella dubia, T. & A. Scott, \( \begin{aligned} \text{\gamma} & \text{side view}, \times 7. \end{aligned} \)

(p. 217.)

8, 9. Clavella stellata (Kröyer), ?. (p. 220.)

8. Side view, shewing a section of the scale of the fish to which the adhesive disk of the *Clavella* is attached,  $\times 4\frac{1}{2}$ .

9. Adhesive disk, enlarged.





### PLATE LXVI.

Figs.

- 1-7. Clavella rugosa (Kröyer), ♀ & ♂. (p. 216.)
  - 1. ? Antennule.
  - 2. Antenna.
  - 3. Mandible.
  - 4. Maxilla.
  - 5. First maxilliped.
  - 6. & First maxilliped.
  - 7. Second maxilliped.
- 8-11. Clavella dubia T. & Å. Scott, ♀. (p. 217.)
  - 8. Antennule.
  - 9. Mandible.
  - 10. Maxilla.
  - 11. First maxilliped.
- 12-16. Clavella brevicollis (M. Edwards), \( \cong \). (p. 220.)
  - 12. Antennule.
  - 13. Antenna.
  - 14. Mandible.
  - 15. Maxilla.
  - 16. First maxilliped.
- 17-20. Clavella emarginata (Kröyer), ♀. (p. 218.)
  - 17. Antennule.
  - 18. Mandible.
  - 19. Maxilla.
  - 20. First maxilliped.
- 21-23. Clavella uncinata (O. F. Müller), \(\psi\). (p. 214.)
  - 21. Antennule.
  - 22. Maxilla.
  - 23. First maxilliped.

(Figures much enlarged.)



#### PLATE LXVII.

Figs.

1-3. Clavella scombri (Kurz). (p. 218.)

1. Female, side view, × 12. A male is shewn attached to the cephalothorax.

2. Female, in situ on gill-arch of fish, x about 4.

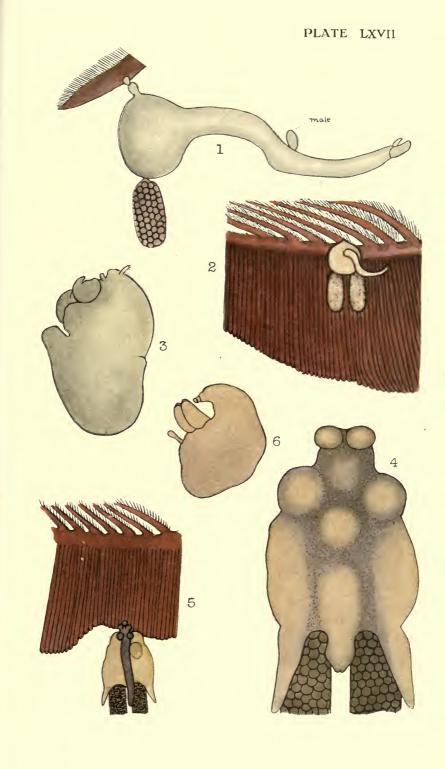
3. Male, side view, × 56.

4-6. Clavella paradoxa (P. J. van Beneden). (p. 222.)

4. Female, dorsal view, × about 20.

5. Female, in situ on gill-filament of fish, × 5.

6. Male, side view,  $\times$  25.





## PLATE LXVIII.

Figs.

1-7. Clavella scombri (Kurz), ♀ & ♂. (p. 218.)

1. ? Antennule.

- 2. Antenna.
- 3. Mandible, apex shewing serrated edge.

4. Maxilla.

- 5. First maxilliped.
- 6. & First maxilliped.

7. Second maxilliped.

- 8-14. Clavella paradoxa (P. J. van Beneden), ? & & . (p. 222.)
  - 8. ? Antennule.
  - 9. Antenna.
  - 10. Mandible, apex shewing serrated edge.

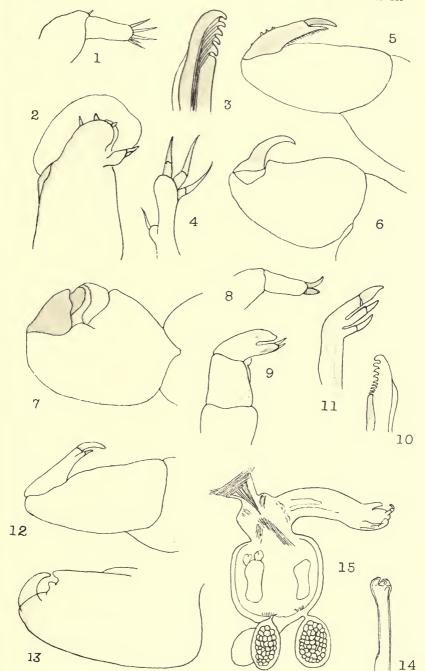
11. Maxilla.

- 12. First maxilliped.
- 13. 3 First maxilliped.

14. Second maxilliped.

15. Clavella quadrata Bassett-Smith, ♀, enlarged (after Bassett-Smith). (p. 223.)

(Figures much enlarged.)





#### PLATE LXIX.

Figs.

1-3. Clavella canthari (Heller). (p. 224.)

1. Female, dorsal view, × 9.3.

- 2. The same, seen from the side,  $\times$  9.3.
- 3. Male, seen from the side,  $\times$  about 50.

4-6. Clavella alata Brian. (p. 225.)

4. Female, dorsal view, × 15.
5. The same, seen from the side, × 15.

6. Male, seen from the side, × about 50.

7. Clavella emarginata (Kröyer) ♀, side view, × about 13. (p. 218.)

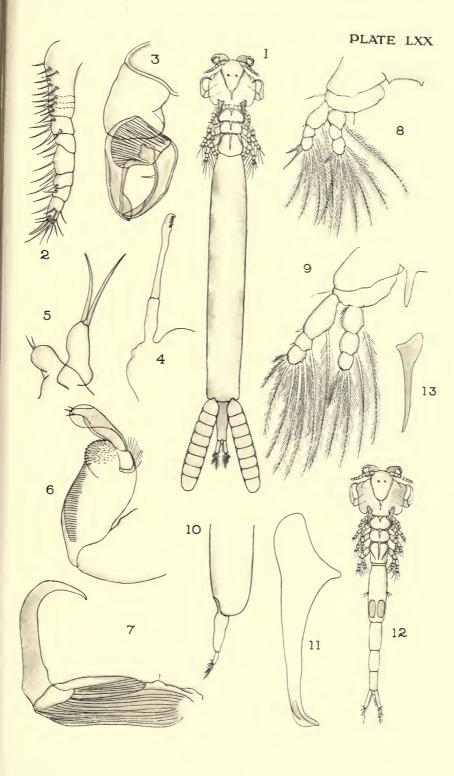


#### PLATE LXX.

Figs.

- 1-13. Kroyeria lineata P. J. van Beneden. (p. 121.)
  - 1. Female, dorsal view, x about 24.
  - 2. Antennule.
  - 3. Antenna.
  - 4. Mandible.
  - 5. Maxilla.
  - 6. First maxilliped.
  - 7. Second maxilliped.
  - 8. Foot of first pair.
  - 9. Foot of second pair.
  - Part of genital segment, and abdomen seen from the side.
  - 11. One of the cephalic spines.
  - 12. Male, dorsal view, x about 24.
  - 13. One of the cephalic spines.

(Figures 2-11 and 13 greatly enlarged.)







#### PLATE LXXII.

Figs.

1-10. Argulus foliaceus (Linn.), ♀. (p. 227.)

1. Female, dorsal view, enlarged about  $6\frac{1}{2}$  times.

2. Antenna.

3. Antennule.

4. Mouth, side view.

5. Siphon with retractile stylet.

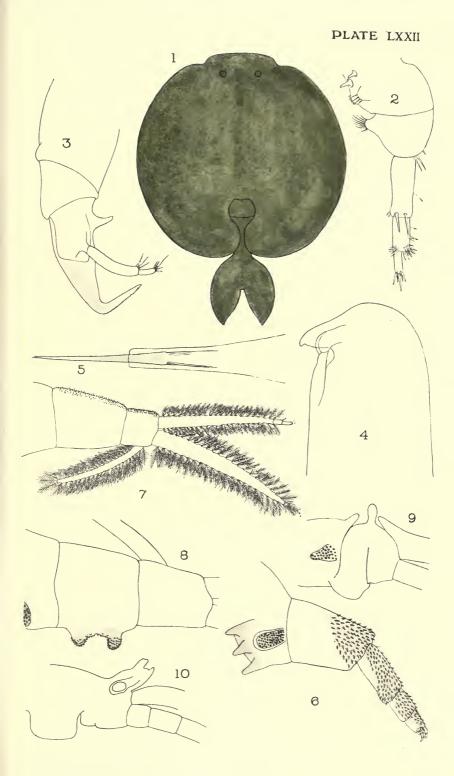
6. Second maxilliped.

7. First swimming foot.

8. Basiopodite of second foot.9. Basiopodite of third foot.

10. Basiopodite of fourth foot.

(Figures 2-10 much enlarged.)





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